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Wisconsin Paper Mill Reports Highly Favorable

Kimberly-Clark Corp., of Neenah, Reports Net Profit of $1,457,265 for 1936, Compared With Earnings of $1,052,395 in Preceding Year—Northern Paper Mills, of Green Bay, Wis., Report Net Income of $166,545 for 1936.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 29, 1937—Highly favorable earnings reports featured the news of the last week in three Wisconsin corporations.

Kimberly-Clark Corporation, Neenah, Wis., last week reported a net profit of $1,457,265 for 1936 for the company and its subsidiaries. This represents a substantial increase from the 1935 net of $1,052,395. The 1936 earnings were equal, after dividend of $597,780 on the 6 per cent preferred stock, to $1.76 per share on the 487,173 shares of no par common, compared with 93 cents per common share in 1935. Net sales totalled $22,863,000, against $20,246,100 in 1935.

Net profits of $776,031 after depreciation, income taxes and other deductions, were reported for the period from September 1, 1935 to March 13 by the Masonite Corporation, Wausau, Wis., according to R. G. Wallace, vice-president. For a like period a year ago, the net profits were $540,014.43, making the current earnings 45.8 per cent greater. Sales have increased considerably, and prospects are for continued good business during the remainder of the year.

Northern Paper Mills, Green Bay, Wis., emerged in the black for the year 1936 with net income of $166,545, as compared with a net loss the previous year of $119,441. The 1936 earnings, after deduction of $62,089 in dividends on 6 and 7 per cent preferred stock were equal to approximately $1.42 per share on 73,337 shares of common outstanding. Net sales last year were reported as $5,268,661, against $4,950,098 in 1935.

Nicolet Labor Dispute

Charges made by labor unions that the Nicolet Paper Company, De Pere, Wis., had discharged three employees because of their union activities were aired at a hearing March 18, conducted by the National Labor Relations board. Chester Beecher, superintendent, was examined as to his version of the dismissal, and the affected employees also testified. Unions contended that the company's act engendered fear in the workers such that organization of the workers had not been accomplished. The testimony will be taken under advisement, and a decision made. An appeal to the courts for the decision may be taken, the company was told, unless it wants to rehire the men and pay them back wages, exclusive of any earnings they might have received elsewhere.

Paper Mill Improvement Projects

Two improvement projects are under way at Appleton, Wis. Riverside Paper Corporation is making a $9,000 addition to bridge a gap between two buildings. The building will be used for a raw material warehouse, and will be of concrete, steel and brick. C. R. Meyer & Sons Company, at Oshkosh, Wis., is doing the work, which will be completed about May 1.

Work on a new turbine room has been started at the Appleton Coated Paper Company. The room will be an addition to the engineering department and will cost approximately $1,000. Brick, steel and concrete construction are being used.

C. J. L. Jacobson Dead

Charles J. L. Jacobson, 75 years old, one of the oldest pulp makers in the Fox River Valley, died March 23 at his home in Kaukauna, Wis. He was employed by the former Outagabie Paper Company at Kaukauna for 49 years, and had served as superintendent of the pulp department. Mr. Jacobson had been ill for six weeks. Burial took place at Kelso cemetery at Kaukauna.

May Buy Paper Mill Site

MOBILE, Ala., March 29, 1937—Business and civic leaders and city and county officials at a meeting in Pensacola recently adopted a resolution urging the City Council to obtain legislative authority to purchase a site and lease it to a paper mill company, which desires to establish a plant here.

F. M. Turner, president of the Chamber of Commerce, said that the mill would be constructed at a cost of $3,000,000, and would give employment to approximately 1,000 persons. The site would not cost in excess of $50,000.

Representatives of the City Council, County Commission, Senior and Junior Chambers of Commerce, and business organizations, spoke in favor of the move to obtain the plant, and voted for the resolution, which requested the city to obtain the passage of a bill at the session opening in April.

Canadian Mills Follow I. P.'s Price Advance

All Larger Newsprint Paper Companies Announce Minimum Newsprint Quotation for 1938 on $50 Per Ton Basis—February Exports of Newsprint Paper from Dominion Again Higher—Wood Pulp Shipments Also Rise.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 29, 1937—One after another the Canadian newsprint companies are following the lead of the International Paper Company and announcing that their contract price for newsprint for 1938 will be on a $50 per ton basis. At least nine, covering all the larger companies, have announced their adherence to this price. It is recognized of course, that developments during the current year will have a bearing on the matter, and it is emphasized in some quarters that $50 will be the "minimum" price. Meanwhile the question has arisen, "What will the great Northern Paper Company do?" In past years this company has announced a smaller increase than the balance of the industry had believed to be reasonable, and by so doing has set the price for all other companies.

Newsprint Exports Again Increase

Another sharp increase as compared with the same month last year was recorded on the February exports of newsprint, which totaled 4,458,890 cwt., valued at $8,011,776, as against 3,681,579 cwt., valued at $6,267,605 in February, 1936. For the 11 months of the fiscal year ending February the newsprint exports had a total value of $99,516,835, an increased 22 per cent over the like period of the preceding year. Of the exports in February 3,568,747 cwt., valued at $6,453,102 went to the United States. The two next largest customers were Australia, with 271,171 cwt., valued at $538,807, and the United Kingdom, with 279,265 cwt., valued at $437,636. The balance went to 33 different countries.

Exports of wood pulp and screenings for the month were valued at $2,589,103, exceeding a year ago by 13.6 per cent, while the figure for the eleven months showed a gain of 16 per cent, $29,576,849 comparing with $25,078,995 a year ago.

Total paper and paper manufactures exported during the month had a value of $8,637,574, as compared with $6,744,777 a year ago, an increase of 28.3 per cent, while the figure for the eleven months at $106,207,718 showed a gain of 21 per cent over the $87,580,395 exported in the like period of last year.

Newsprint Carriers to be Launched

From Quebec it is reported that two newsprint carriers at present under construction in the George T. Davie shipbuilding yards at Lauzon, Que., will be launched as soon as ice conditions permit.

One of the vessels is being constructed for the Donnacona Paper Company, the other for the Davie Transportation Company. The vessels are similar in build and will measure 123 feet in length and 23 feet in width. They will be powered with 200 h. p. engines and utilized for transporting newsprint from Donnacona, Que., to New York.

New President of Price Brothers

At a meeting of the directors of Price Brothers and Company, Limited, held in Montreal, the Hon. Gordon W. Scott was appointed president of the company. Mr. Scott was also elected to the board of directors filling the vacancy created through the retirement of Paul Hutchison.

Price Brothers' affairs have been under Mr. Scott's administration for nearly four years, he having been appointed receiver and trustee-in-bankruptcy in April of 1933.

Fraser Companies, Limited

At the annual meeting of Fraser Companies, Limited, held in Edmundston, N. B., the reports on the year's activities were approved. The directors were re-elected today as follows: A. M. Irvine, Harold Crabtree, A. H. Campbell, and H. P. Thornhill, all of Montreal; S. F. Duncan and E. G. Long, Toronto; Hon. R. B. Hanson, Fredericton; Donald Fraser, Plaster Rock, N. B.; F. C. Beatteay, Saint John, and K. S. Maclachlan, Edmundston. Mr. Maclachlan is president and general manager of the company.

Sulphite Pulp Prices Rise

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 31, 1937—At a meeting of the Council of the European Sulphite Organization, it was decided to increase the output of sulphite wood pulp. It was also announced that although prices had improved, most of the 1937 production had been sold at the earlier more favorable prices.

When the S.P.S. was formed in 1930, the demand for pulp had diminished considerably, and the primary object of the organization was to try to adapt the production accordingly. The market situation is now entirely reversed in that there is a shortage of pulp, the S.P.S. is thus merely carrying out the same policy of adapting production to consumption when it increases the production of its members.

No information whatever is given regarding the quantities involved, presumably for the reason that the import of any specific figures given might easily be misinterpreted. The resolution to increase the output should probably also be interpreted to mean that each country or private producer should utilize available output capacity as rationally as possible. This is, of course, also in the interests of the producers themselves, if they are to derive the greatest possible benefit from the now improving prices.

B. C. Pulp & Paper Developments

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., March 29, 1937—Lawrence Killam, president of the British Columbia Pulp and Paper Company, states that the recent end of the severe cold spell in British Columbia marked re-commencement of improvement operations at his company's plants at Port Alice and Wood Fibre, B. C. The extreme weather conditions necessitated suspension of operations for some time.

The improvement program, to involve approximately $500,000 expenditure, calls for installation of equipment at Wood Fibre for the production of bleached pulp as well as unbleached, and will result in the installation of more turbines at the same plant. Mechanical changes will be made at both plants. The work at Port Alice will, it is expected, be completed by the end of May, and work at Wood Fibre will continue until early August.

Boston Paper Business Is Moderately Active

Rise of Prices on Various Grades of Fine Paper Lessens Demand — Sales of Various Grades of Wrapping Paper Irregular — Tissue Manufacturers Exceptionally Busy—Request for Box Board Is Said To Be Holding Up Well.

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 29, 1937—Paper wholesalers here sold a somewhat smaller volume of merchandise in the aggregate than in the previous week, it is estimated. although in a few instances the amount has kept up exceptionally well. In the fine paper division especially it is felt, the rise of prices has lessened the demand. The volume of sales was maintained in wrapping paper in some quarters, but in others it was less active and rather spotty. The bag business continued favorable. A manufacturer's representative handling tissues said that his mill was "filled up to the gills with orders." Prices have been advancing on all tissues. The demand for box boards held up well.

In the paper stock market, there was an active demand for all grades of old paper, especially for corrugated stock and kraft. Corrugated boxes registered up to .90 @ 1.00 and No. 1 books, heavy up to 1.40, both f.o.b., Boston. Under bagging, gunny showed a declining tendency. Foreign manila rope continued strong with an advancing tendency. No changes in prices of new and old domestic rags were reported. The fine paper mills, it is said, have been keeping out of the market for a few days, showing very little interest, although there was no basic weakening in prices. The supply of stocks continues low and any surge of buying would put them on higher levels or at least keep them where they are. Roofing rags were fairly easy, although no actual change in quotations took place. In foreign rags, dark cottons took another drop, declining to 2.10 @ 2.20 from 2.15 @ 2.25, f.o.b. Boston.

The twine market continued very healthy.

NPTA Appointees

The following are appointees from the New England Paper Merchants Association to the committees of the National Paper Trade Association of the United States: Joint Fine and Wrapping Paper—Survey, Arthur W. Blackman, D. F. Munroe Company; and Traffic, Harrie E. Waite, John Carter & Co., Inc. Wrapping Division—Governing, Floyd H. Blackman, D. F. Munroe Company; Bag, Samuel L. Ginsburg, Ginsburg Bros., Inc., Somerville, Mass.; Wrapping Paper, John E. Roach, Fort Hill Paper Company; Gummed Tape Division—Streeter Bush, Carter, Rice & Co. Corp.; Tissue Division—Robert M. Stone, Stone & Forsyth Company; Specialties Division—Harold R. Robinson, C. H. Robinson Company, Portland, Me.; Merchandising Division—John R. Halkyard, chairman, Providence Paper Company, Providence, R. I.; Twine Division—John H. Blackman, D. F. Munroe Company.

Twine Situation Discussed

Frank Herrick, New England manager of the Columbian Rope Company, at a sales meeting of Carter, Rice & Co. Corp., Saturday, with Frank H. Winter, sales manager presiding, attended by the sales staff, discussed at some length the twine situation and specifically gave many helpful hints on how to increase twine sales.

Package Competition

The 1936 winners of the All American Package Competition, conducted by Modern Packaging, will be shown in the Exhibit Hall of the Storrs & Bement Company, 282 Congress Street, March 25-April 15.

George H. Lowe Estate

The estate of George H. Lowe, of Wellesley, Mass., who was associated with Carter, Rice & Co. Corp., aggregated $360,000 in real and personal property, it was revealed when his will was filed in Norfolk probate court at Dedham Friday.

The will directed that the entire property be turned over to a son, George H. Lowe, Jr., of 8 Acorn street, Boston, who was named executor and filed a $300,000 bond. The widow will receive the income while she lives, and on her death it will go to two daughters, Mrs. Marion L. Winter of 48 Oak Knoll terrace, Needham, Mass., and Mrs. Helen B. Crowe of Washington street, Duxbury, Mass.

The principal will go to the son on the death of the last surviving daughter.

Millboard Papers Chartered

A new company, Millbrand Papers, Inc., 62 Hampden street, Springfield, Mass., has been organized by the Messrs. Pope, twin brothers, one of whom was a salesman for Whitney Anderson Paper Company, Inc., Springfield, and the other formerly with the Worthy Paper Company Association, West Springfield, Mass., to deal in fine papers.

Metz Paper Co. Organized

Another new firm is the Metz Paper Company, Pawtucket, R. I., with Harry Main as manager. The new concern is a dealer in papers and distributor for a company of the same name, which manufactures box coverings.

Specifications for Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 31, 1937—An initial meeting of the paper specifications committee of the Joint Congressional Committee on Printing was held last week in connection with specifications for paper bids to be opened probably about the middle of May for the Government Printing Office for the period from July 1 next. It has not yet been decided whether bids will be opened for a six months or a year's period of time. During the past couple of years or so bids have been opened for a six months' period only due to uncertain market conditions. Further meetings of the committee will be held until the changed specifications have been completed.

Present members of the specifications committee include: F. P. Veitch, Department of Agriculture, chairman; B. W. Scribner, National Bureau of Standards; Arthur H. Smith, Veterans Administration; Ernest E. Emerson, Alla G. Stevens, and Morris S. Kantrowitz, all Government Printing Office; James M. Cathcart and Ansel Wold, Joint Congressional Committee on Printing.

Earl O. Knapp Joins Dexter Sulphite

DEXTER, N. Y., March 29, 1937—Announcement is made of the appointment of Earl O. Knapp, of Washington, D. C., to the position of chemist with the Dexter Sulphite Pulp and Paper Company. He succeeds Louis Korte, who recently resigned. The latter has gone to Belleville, N. J., where he has taken a similar position with the Dexter Sulphite Pulp and Paper Company.

Paper Manufacturers More Active in Ontario

Practically All Mills Were Busier In First Quarter of Year and Have More Orders Ahead Than Usual — Prices Continue Firm With Higher Quotations Generally Anticipated Shortly—Newsprint Paper Situation Improves.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 29, 1937—The first quarter of the current year in the general paper business shows considerable gain in all lines over the corresponding period of 1936. All the mills have been busier and have more orders ahead than usual, while prices have been very firm and a general scaling up of quotations is expected at the end of the present month. Prices on all grades of pulp were advanced during the past month and now producers of book and writing papers have notified consumers of such stock of an advance. It is understood that the increase will average about ten dollars a ton and will be beneficial to all the manufacturers of fine papers. Those wholesalers and large users who put in heavy stocks early in the year, will also be in a better position to improve their earnings.

Following the recent ascension in price of newsprint trading in the bonds of the large producers has been active. Such issues as Abitibi, Consolidated Paper, Minnesota and Ontario Paper have risen rapidly. The increase of the base price on newsprint to $50 per ton for the first half of 1938 has created the hope on the part of investors and speculators that this advance of $7.50 per ton will mean the restoration of newsprint to a stable basis and the elimination of receiverships. Coincident with the announcement a number of concerns reported their earnings for the past year and, in each case, a substantial improvement was shown over 1935. Further improvement will be recorded in the current year owing to base price being $1.50 per ton higher than in 1936. Taking the industry as a whole Canada exported 2,422,000 tons of newsprint paper to the United States last year. As the current figures are running higher it is quite possible shipments will reach 2,500,000 tons in 1938. In that case the advance of $7.50 per ton would mean an increase of nearly $19,000,000 in gross revenue. Demands for augmented wages by workers in newsprint mills are likely to be met with some concessions and several important wage agreements are renewable by May 1. Rising costs in the newsprint industry may absorb about one-third of the announced increase of $7.50 per ton for 1938. Calculators of probable earnings at $50 a ton have been basing their arithmetic on 1936 earnings and adding earnings of $5 per ton of production.

Plans for Lake Sulphite Mill

In regard to the Lake Sulphite Pulp Company's proposal to erect a mill in the Thunder Bay district, Mr. Cox stated that the engineers were now at work at Nipigon. They were boring for a site and testing water, the result of which is not yet known. If the tests were not up to the standard in Nipigon, Port Arthur would be the possible site of the new mill. He concluded by saying that the reallocation of timber limits in the Nipigon district made that point the logical location for the erection of the plant.

Abitibi Reorganization

There has been passed by the Ontario Legislature a bill which will permit speedy emergence and reorganization of the Abitibi Power and Paper Company, Ltd., Toronto. Attorney-General Roebuck says that the bill will assure prospective investors in the reorganized company that the settlement of its affairs will not be attacked by every shareholder and bondholder in the old Abitibi Company. The bill provides for the adjustment of the claim of the Ontario Hydro Commission against the Abitibi Company on conveyance by the company to the commission of the Crystal Falls power development. Any further claim that the province may have will be subject to compromise by the Ontario cabinet. The reorganization settlement has been approved by all parties interested, said Mr. Roebuck.

Southern Pine Problems

Considerable has been heard in regard to the use of Southern pine for the manufacture of newsprint, but it would seem that Canadian producers are not alarmed over the situation. F. H. Clergue, who some years ago was an influential factor in the building up of extensive industries at Sault Ste. Marie, Ont., said in a public address that Southern pine offers cost problems which are not present in Canada. R. O. Sweezey, who has organized the Lake Sulphite Pulp Company, which will erect a large sulphite mill in the Nipigon district, the product of which will be used for fine papers and rayon, said he did not fear competition from Southern pine. In addition to the costs spoken of, Mr. Sweezey said there was also the question of quality. He added that the fiber of the Southern pine was not good, and it was difficult to break it down. When it was rolled into paper, the quality was not up to that of the spruce product in Canada. Mr. Sweezey claimed that the Southern pine as a wood for the production of paper might well be compared to the jack pine of Northwestern Ontario. The paper products of the two were about on a par. Up to date jack pine has not reached any height so far as a paper making wood is concerned and technical engineers had been trying to find some purpose for which it may be used besides fuel.

Lake Sulphite Agreements

Some criticism arose recently in the Ontario Legislature over the agreements made between the Department of Lands and Forests and the Lake Sulphite Pulp Company, concerning the erection of a large new sulphite mill at Nipigon. It was stated that the latter company, for an expenditure of sixty million dollars, would be in possession of products worth 250 million dollars after processing was carried out in the United States. The Hon. Peter Heenan, Minister of Lands and Forests, accepted responsibility for the contract and said he was proud of it. The province had offered the Little Long Lac timber area to every pulp and paper company in Ontario, and no one would take it. Mr. Heenan condemned the former practice of letting timber limits to people who held them hoping to re-lease them at a profit. His department was "keeping the chisellers out" and would not give away pulpwood areas in Ontario to be peddled in the United States. Timber allowed to rot and burn was not of any value to Ontario, and if contracts for its cutting for export could be arranged, Ontario labor benefited. The pulpwood limits given the Lake Sulphite Company were in the mining area and subject to great fire hazard.

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Paper Business Continues Active In Chicago

Announcement of Increased Quotations for Newsprint Paper Stimulates Other Grades — Fine Paper Group Exhibits Stronger Undertone — Kraft Paper In Excellent Demand — Specialty Papers Moving In Good Volume.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 29, 1937—The Chicago paper market shook off the slight recession of a week ago and during the past six days gave further appearance of climbing to new heights for the late Spring months. Whereas a slackening of demand had been noticeable in some lines, these lines moved along more effectively as commodities in general reached new high ground.

Current strengthening in newsprint prices had the effect of stimulating other grades. Kraft grades were in excellent demand while groundwoods were also reported firm and in greater request. Board conditions were reflected in this week's report of current earnings by the Container Corporation of America. Sulphites held firmly to the new register of prices while the entire fine paper list indicated a resumption of general strength. Book and cover papers were in good demand with prices reported as ranging to higher limits. Specialty papers, all having responded to the general strengthening of the market, were also in good demand. Waste papers had a good week.

Container Earnings Higher

Net earnings in 1936 of $1,286,942 equal to $1.97 per share on the 653,540 shares of outstanding $20.00 par value capital stock, were made public this week by the Container Corporation of America. During 1935 the company earned $1,238,009. Despite the substantial loss of potential profit resulting from the shutting down of the Cincinnati plant from January 21 to February 9 because of the Ohio River flood, the company's profit for the first quarter of this year is expected to be very much larger than for the same period in 1936. "During the greater part of 1936 and thus far in 1937", said Walter Paepcke, president, "the paperboard industry has been operating at full capacity and the container industry was operated at a rate limited only by the capacity of mills manufacturing container board."

Safety Council Planned

The Chicago Safety Council is laying plans for its Fifteenth Annual Conference to be held at the Sherman Hotel, Chicago, May 12 and 13. The two day session always attracts a great deal of interest from paper and allied manufacturers who take a prominent part in the mid-west anti-accident campaigns. There are to be ten sessions, according to George Traver, director. More than thirty exhibitors will take advantage of the exhibition hall on the Mezzanine floor to display safety materials of interest to manufacturers in all lines of business.

Joliet Mills Have Labor Trouble

John E. Chalstrom, head of the Joliet Wall Paper Mills, located in the Chicago suburban metropolitan area, stated this week that mill operations had been suspended indefinitely because of labor trouble. He is said to have notified the 250 employees of the wall paper making concern to call for their checks. The mill reopened three weeks ago after an agreement was signed with union strikers and closed again on March 24. At that time 45 women were discharged because, according to the company, their work is entirely seasonal in character. They picketed the plant and the men workers then refused to enter. Reports indicate that the Joliet concern will keep the plant idle as long as the present situation exists—believing, according to Mr. Chalstrom, that the present uncertainty precludes any "sensible marketing operations".

Henry G. Prosser Dead

Funeral services for Henry G. Prosser, vice president and treasurer of Bermingham & Prosser, nationally known paper merchants, were held March 24 in St. Francis Xavier Church, Wilmette, Ill. Mr. Prosser died very suddenly on March 20 while on a business trip in Kalamazoo, Mich. Widely known in the paper business, Mr. Prosser started his career in the industry with Bermingham & Seaman, working there for ten years until the formation of Bermingham & Prosser in 1915. As an executive of the widely known concern, the 53 year old Chicagoan had a host of friends who admired him for personal reasons and for his ability in his chosen profession. His death was very unexpected. Attributed to heart failure, friends report that Mr. Prosser's heart had undoubtedly been weakened from an attack of influenza earlier in the year.

Michigan Mills Increase Wages

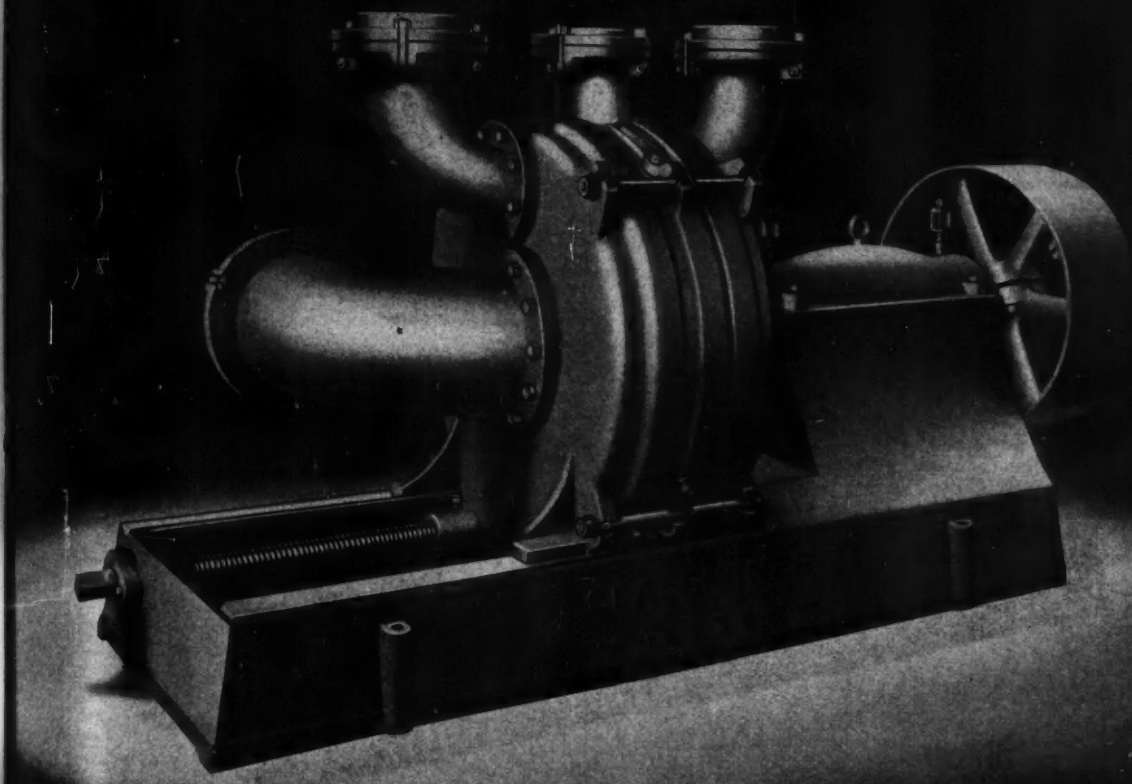
A number of paper mills in the Kalamazoo River Valley district arranged for a ten per cent increase in wage scales, effective March 28. The different plants, largely specializing in the manufacture of book papers, are giving employment collectively to about 3,500 operatives, and include the following: The Kalamazoo Paper Company, Allied Paper Mills, Bryant Paper Company and Rex Paper Company, all of Kalamazoo; Michigan Paper Company, Plainwell; and the Watervliet Paper Company, Watervliet. The Hawthorne Paper Company, Kalamazoo, and the Lee Paper Company, Vicksburg, are said to be arranging for immediate similar advances. The River Raisin Paper Company, Monroe, has announced a like increase of 10 per cent, affecting all employees at local mill, as well as those at branch mills at Cleveland, Ohio, and Washington, Pa., totaling close to 1,500 operatives, in all. A number of mills specializing in paper board products have arranged for a similar increase, these including the Sutherland Paper Company, Kalamazoo, and the Mac Sim Bar Paper Company, Otsego. The Kalamazoo Vegetable Parchment Company, Parchment, Kalamazoo, has given a like increase to operatives at its mill.

Modern Packaging Discussed

W. F. Deveneau, assistant editor of *Modern Packaging*, was the guest speaker at the regular meeting and luncheon of the Eastern Division of the Salesmen's Association of the Paper Industry, which was held in the Florentine Room of the Hotel Lexington, New York, on Monday.

Mr. Deveneau gave an interesting and instructive address during which he displayed a number of specimens showing the most modern trend of the packaging industry.

Dilts



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Paper Classification Decision Reversed

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C. March 31, 1937—The United States Court of Customs and Patents Appeals on Monday rendered a decision in connection with the case of the United States against F. W. Myers & Co., Inc., involving the classification of standard newsprint paper or uncoated printing paper.

The Court overruled the decision of the lower court that the paper should be admitted free of duty as newsprint and ruled that it is dutiable.

The decision was rendered by Judge Bland, with Judge Garrett dissenting and Judge Lenroot not participating and is as follows:

Judge Bland—Forty-nine rolls of paper were imported from Canada into the United States on February 3, 1934. The collector classified the same under the provision of paragraph 1401, Tariff Act of 1930, as "all uncoated printing paper, not especially provided for," and assessed duty at 1 cent per pound and 10 per centum ad valorem.

In appellee's protest it was claimed that the said merchandise was properly entitled to entry free of duty under paragraph 1772 of said act as "Standard newsprint paper."

The United States Customs Court, Second Division, sustained the protest of the appellee and the Government has here appealed from the judgement of said court.

It was stated in oral argument that the paper was ordered to weigh 38 pounds per ream. The bill of lading contains the notation "Standard Newsprint Paper 38 Pounds Basis." The Government contends that some of the paper involved here weighed 38 pounds and up to 40 pounds per ream. However, the particular sample submitted to the chemist of the United States laboratory—appraiser's stores—was shown to weigh 36.22 pounds per ream consisting of 500 sheets, 24 by 36 inches. In view of our conclusion, just how much more than 36.22 pounds, if any, the paper weighed, is not of great importance.

The importer offered the testimony of five witnesses, and the Government that of eight witnesses in connection with the issue as to whether or not the imported paper responded to the term "Standard newsprint paper." The testimony is set out in the decision of the trial court and in the briefs of the parties. There is little, if any, dispute as to what the testimony shows. Concerning the weight and effect to be given the testimony there is a wide disagreement between the parties. In view of our conclusion it will not be necessary, as will appear later, for us to state or discuss at length the evidence of record.

In the Government's appeal to assign many errors, some of which are based upon the rulings of the court to the effect that it was not necessary for the appellee to prove the chief use of paper of the kind, class, or character in question, prior to June 17, 1930, the effective date of the Tariff Act of 1930. It is the main contention of the Government that the record does not show that merchandise of the kind and class of the involved importation was known as "Standard newsprint paper" or was chiefly used for the printing of newspapers on, or immediately prior to June 17, 1930.

We have read the voluminous record with care and we agree with the Government's contention that the record does not establish the chief use of paper of the kind, class or character of that imported prior to the enactment of the Tariff Act of 1930. The case was not tried upon that theory in the court below. It was the contention of counsel for appellee there and here that the imported merchandise and paper like it, when imported, was used in this country, for the printing of newspapers, and that it was not necessary, under this court's holding in United States v. F. S. Whalen, 22 C.C.P.A. (Customs) 426, T.D. 47424, to prove any chief use prior to the passage of the tariff act. The trial court definitely ruled that it was not necessary to prove chief use prior to the passage of the tariff act and relied upon our said decision in the Whelan case, supra.

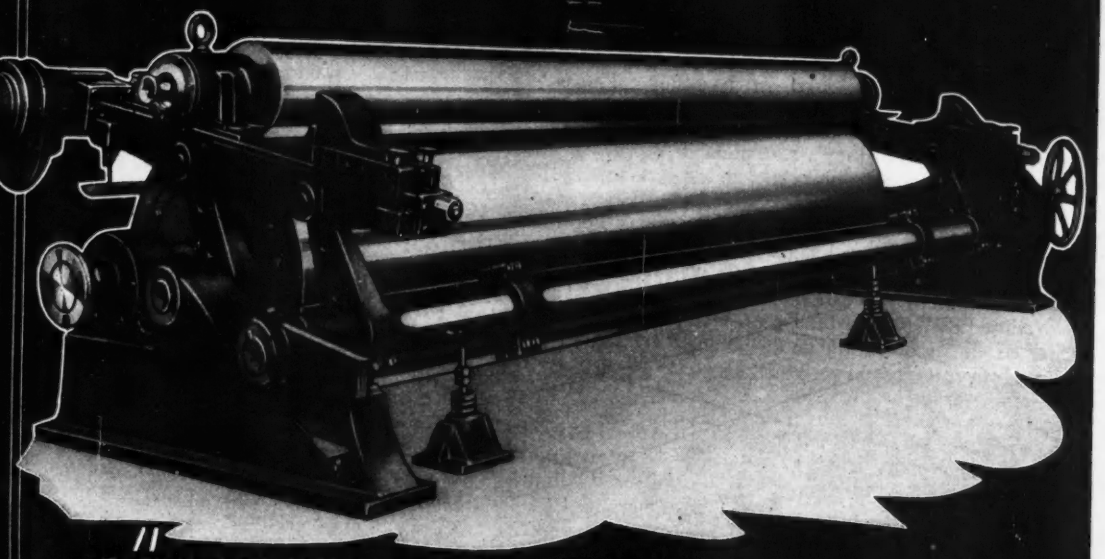
The Government contended in the court below that "Standard newsprint paper" is only such wood pulp paper as has a weight of "not less than 30 pounds nor more than 35 pounds" for a ream of 500 sheets, 24 by 36 inches, which, the record shows, was the definition of such paper made by the Treasury Department in T.D. 40996, 47 Treas. Dec. 844. Here, it confines the limits of weight to "32 pounds * * * * but never in excess of 36 pounds" per ream. As we understand the main contention of the Government, it is that *newsprint paper* is only that kind of wood pulp paper which was chiefly used in this country for the printing of newspapers prior to the passage of the Tariff Act of 1930, and that "Standard newsprint paper" is confined to paper which weighs 32 pounds per ream and up to and including 36 pounds per ream.

The appellee, agreeable to the statement of some of its witnesses, contends that the addition of the word "Standard" adds nothing to and takes nothing from the term "newsprint paper" and, in substance, argues that in determining what "Standard newsprint paper" is, we may ignore the word "Standard."

Some of appellee's witness distinguish "Standard newsprint paper" from newsprint paper, and practically all the testimony offered by the Government is to the effect that newsprint paper is a broader term than "Standard newsprint paper." There is practical unanimity, however, between the witnesses for the Government and the witnesses for the appellee that 32 pounds per ream is the "basis" or "basic weight." This "basic weight" became well understood, prior to 1922, in the wholesale newsprint paper trade after a committee of paper manufacturers had met and adopted said 32 pound weight as the basic weight for contract purposes. A standardized form of contract was adopted fixing 32 pounds as the basis. Certain tolerances were allowed in the contract. But, we regard the action of the Treasury Department and the said committee and many other facts found in the record to be of little importance in determining the controlling issue presented here.

In the Whelan case, supra, we had under consideration one car out of forty-four cars of paper imported, the width of the paper in controversy being 15¾ inches. It was in all respects the same quality and type of paper except in one dimension—width—as the paper in the other forty-three cars which was admittedly free of duty as "Standard newsprint paper" and was used by the Cincinnati Enquirer in printing the magazine and comic sections of its regular editions. It was imported and used after the effective date of the Tariff Act of 1930. The Government there contended that it was necessary to show that paper only 15¾ inches wide was chiefly used for printing newspapers prior to or at the time of the passage of the Tariff Act of 1930. A careful reading of the opinion discloses that not only did the Government call this court's attention to its contention, but that in a dissenting opinion the subject matter of the Governmen's contention was raised. It was the opinion of the court that the paper involved belonged "to a class chiefly used for the printing of newspapers." The court then referred to

A Star PERFORMER



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WATERTOWN, NEW YORK

Crown Willamette Paper Company v. United States, 16 Ct. Cust. Appls. 431, T.D. 43187, and United States v. James P. Heffernan Paper Company, 17 C.C.P.A. (Customs) 61, TD. 43358, in which it was said that the chairman of the Committee on Ways and Means in reporting the bill, which became the Tariff Act of 1922, to the House of Representatives, stated that: "It (Standard newsprint paper) is that form of print paper upon which newspapers are printed." It was the view of the court in the Whelan case, supra, that the paper involved belonged to a class of paper concerning the free status of which there was no dispute, and the word "class" was there italicized in the expression used by the court which was a quotation from the Crown Willamette Paper Company case, supra.

To better understand our decision in the Whelan case, supra, it is well to consider the two decisions, on substantially the same question, which had preceded it. In the Crown Willamette Paper Company case, supra, we had before us rolls of paper 10⅞ and 12 inches wide and also the same grade of paper 9 inches long by 6 inches wide, in sheets. It was the same grade of paper and identical in every particular, except as to dimensions, with "Standard newsprint paper," concerning the free status of which there was no question. A newspaper could not be printed on the paper then at bar on account of its width in one instance and its width and length in the other. The legislative history of the Tariff Act of 1922, where the term "Standard newsprint paper" first appeared, was reviewed at great length. Mr. Fordney's statement in reporting the bill to the House that "it (Standard newsprint paper) is that form of print paper upon which newspapers are printed" was referred to as showing that it was not the Congressional intent to free list paper which could not be used in the printing of newspapers. It was not intended there to pass upon the question of chief use or at what period of time chief use should be proven, since no newspaper use of the importation could be made.

In the Heffernan case, supra, the question of proof of chief use at or prior to the date of the passage of the tariff act was moot. The Government's contention there was that this paper was not of the size, kind, or quality, ordinarily and generally used by newspapers in printing their regular editions, and although it was admitted that this paper was used by some weekly newspapers, it was also shown that it was used for box and trunk linings, pen and ink tablets, job printing, etc. The importer in that case merely attempted to prove susceptibility for use. We answered that contention and said that proof of susceptibility for use was not sufficient and that in order for the paper to be "Standard newsprint paper," actual chief use must be proven. We there said:

In applying the doctrine of use, courts have frequently said that a fugitive use, an occasional use, a possible use, or a susceptibility for use is not sufficient, but that chief use should be the test, unless the legislative intent was shown to be otherwise. To hold otherwise would lead to hopeless confusion in the application of the doctrine of use. United States v. Bloch & Co., 13 Ct. Cust. Appls. 5, T.D. 40847; United States v. Paul G. Downing et al., 16 Ct. Cust. Appls. 556, T.D. 43294

Now, if country newspapers with flat-bed presses use the paper in controversy, and this is the chief use of the paper, we cannot see why it is not standard newsprint paper, and, therefore, free of duty On the contrary, if such papers are printed on poster paper, book paper, or any other kind of paper which is chiefly used for other purposes, obviously Congress had not intended, by the use of the words "Standard newsprint paper" to include it within the term.

We concluded that the importation there in controversy had not been shown to be chiefly used for printing newspapers at any time and that it was, therefore,, not "Standard newsprint paper." Under the facts there it was obvious that the paper there involved was not even newsprint paper.

The term newsprint paper is an eo nomine provision. It indicates the use to which the paper is put. "Standard newsprint paper" is also an eo nomine designation and suggests its use. The particular kind of newsprint paper free listed was "Standard newsprint paper."

Under the well-settled rule of this and other courts, an eo nomine designation, the meaning of which is in question, must be determined as of the date of the passage of the act. In determining the meaning of a word which meaning depends upon its use, it has always been the law that proof of that use is confined to the time prior to and on the date of the passage of the act in which the term is used. In other words, what did the term mean when Congress used the same. Goldsmith's Sons v. United States, 13 Ct. Cust. Appls. 69, T.D. 40932; Wilbur-Ellis Company v. United States, 18 C.C.P.A. (Customs) 472, T.D. 44762.

The term newsprint paper has reference to its use in printing newspapers and in order to prove whether an imported paper is newsprint paper, proof should be directed to the chief use of the kind or class of paper imported on the date of the passage of the act. The exact term before us, the meaning of which is in question, is "Standard newsprint paper." It seems obvious that "Standard newsprint paper" is a narrower term than newsprint paper, but, in order for it to be "Standard newsprint paper" it must first be newsprint paper. In the instant record, there has been no attempt to prove that the imported paper, or paper of its weight and kind, was, prior to June 17, 1930, or at any other time for that matter, chiefly used for printing newspapers.

The classification of the collector carries with it the presumption that the imported article was not that kind of paper which, in this country, on the effective date of the act, was chiefly used in the printing of newspapers. Appellant has not overcome this presumption by proof that this kind of paper was used subsequently to the passage of the act in printing the Christian Science Monitor or in proving that subsequent to the passage of the act any other newspapers were printed on this kind of paper. Evidence as to use of the imported paper, subsequent to the passage of the act, may be competent as corroborative evidence. It may show susceptibility of the paper for a certain use, but proof of susceptibility, we have held, is not sufficient. The testimony fails to show that imported paper weighing 36.22 pounds per ream was chiefly used in the printing of newspapers, much less does it show that paper of this weight and kind manufactured and used in this country was chiefly used at any time for the printing of newspapers. That paper produced in this country as well as imported paper should be considered, is well settled. United States v. S. Schapiro & Sons, 24 C.C.P.A. (Customs)—, T.D. 48771.

While the Government was not obliged to prove the chief use of the paper, it seems to us that the weight of the evidence in the record, including that produced by the Government, indicates that paper of this kind, prior to the passage of the act in question and also on the dates when the testimony was offered, was used in this country chiefly for job work, children's books, drawing paper, raw stock for wall paper, and many uses other than that of printing newspapers. The record makes it clear why this is true. Since 40 per centum of the cost of publication of a newspaper, according to the testimony, is in the paper used, the expense would be too great. In order to cheapen the price of the newspaper, it has always been the general policy of publishers to use paper as light in weight as is practicable, taking into consideration the fact that if the paper was too thin, the printing on one side of the paper

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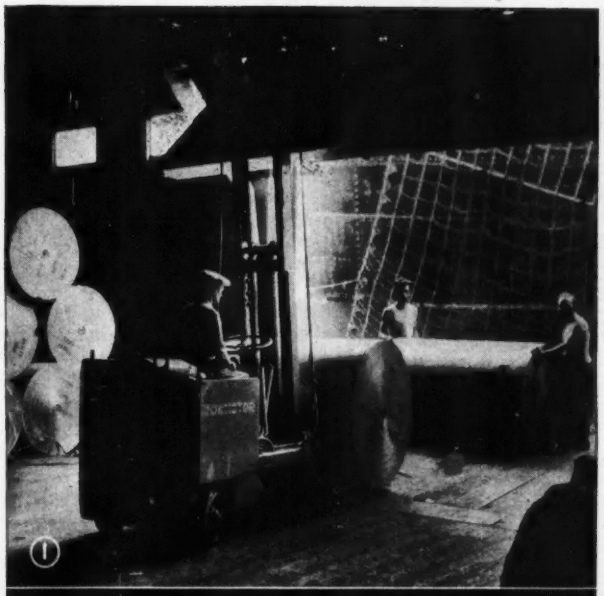
IN *Paper Handling*



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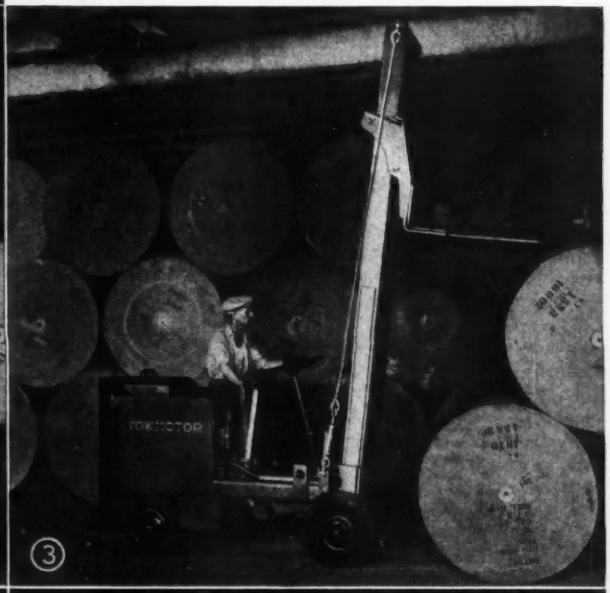

UNLOADING AND PLACING

GAS HAULAGE EQUIPMENT SINCE 1919

would "Show through" on the other. Appellee has shown that for photogravure purposes, and for special editions and on exceptional occasions, and for magazine sections in some instances, papers approaching the weight of 36 pounds have been used. It is shown that in one or more instances, newspapers in this country such as the Christian Science Monitor have used paper as heavy as that involved here. This is far from proving that paper of the kind at bar was, prior to the passage of the Tariff Act of 1930 chiefly used in the printing of newspapers.

Appellee, therefore, failed to prove that the imported paper was newsprint paper. It is the contention of the Government, as before stated, that Congress intended only, by the Tariff Act of 1930, as well as the Tariff Act of 1922, to free list that character of newsprint paper which was regarded as standard and that "Standard newsprint paper" had a definite and uniform meaning in the trade prior to the passage of the Tariff Act of 1930 which excluded any paper of greater weight than 36 pounds. The record does show an attempt at standardization on the part of these interested in buying and selling newsprint paper and, as far as the record shows, these attempts resulted in the establishment of a basis far below the weight of the paper here involved. However, having found that there is nothing in this record which shows that the involved paper is newsprint paper, it is not necessary for us, in this case, to determine the exact and precise meaning of the term "Standard newsprint paper." Of course, we cannot read out of the statute the term "Standard." Congress had something in mind by the use of the term. There must have been some standard of newsprint paper known to the trade at the time of the passage of the act. Future cases may call for a more precise definition of the term, but, for reasons stated, it need not be so defined here.

In argument before this court, but not in brief, appellee's counsel took the position that even though it be concluded that paper of the weight and exact character of that involved here was not shown to have been chiefly used for printing newspapers prior to the passage of the act that it nevertheless belonged to that class of paper which on said date was admittedly "Standard newsprint paper." This contention invokes the principle announced by this court in United States v. Swift & Co., 14 Ct. Cust. Appls, 222, T.D. 41706. It is obvious that a slight or inconsequential change in "Standard newsprint paper," made subsequent to the passage of the act, might not take it out of the class of paper known as "Standard newsprint paper," notwithstanding the fact that it could be said that no paper like the new paper was in existence at the time of the passage of the act. These changes or differences might not change its character so as to take it out of the class of papers which existed prior to the passage of the act. Under such circumstances, it might belong to the class of papers known as "Standard newsprint paper."

We are of the opinion that, in view of the facts of record in the instant case and the aforementioned circumstances, the involved paper cannot be regarded as belonging to a class of papers which, prior to the passage of the Tariff Act of 1930 was "Standard newsprint paper." It is urged by appellee that the record shows that the only difference between the involved paper and the ordinary newsprint which the Government admits is "Standard newsprint paper" is that in making the same at the paper mill, the faucet or cut-out regulating the flow of the pulp into the paper-making machine is opened to increase the supply of pulp and that the weight of the paper is increased thereby. It is urged that it is of the same composition—wood pulp, sulphite, etc.—as is that paper which is admittedly "Standard newsprint paper" and that since it is used to some extent in printing newspapers in this country, it belongs in a class with "Standard newsprint paper." If these facts with reference to the process of manufacture were conceded, it would nevertheless, be our opinion that appellee's contention is without merit. Newspapers might, under exceptional circumstances, be printed upon wood pulp paper weighing 40 pounds or more per ream. The record makes it clear that it is not practicable to use this character of paper for printing newspapers and that it is particularly fitted for and is used for purposes other than for printing newspapers. It comes into competition in this country with domestically produced printing papers (not newsprint) some of which contain rags. To contend that merely because some one may, under exceptional circumstances, use job work paper for printing his newspaper brings the paper used within the class or kind to which "Standard newsprint paper" belongs is tenuous.

Not only does the record show that, in the making of paper of the weight of that at bar, the cut-off valve is opened so as to permit more pulp mixture to flow, but some additional process must be observed with reference to the dryer which dries the pulp mixture. One of appellee's witnesses stated that the dryer was run faster and was closed in. Another stated that a particular dryer was used. While this testimony with reference to the dryer is not regarded as controlling here, it is a fact, nevertheless, proper to take into consideration.

Being of the opinion that the record does not show that paper of the kind and class of that imported should have been classified free of duty as "Standard newsprint paper," it follows that the judgment of the United States Customs Court should be, and it is, reversed.

Philadelphia Paper Business Brisk

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 29, 1937—With the last lap of the first quarter of the year reporting a decided upswing in all branches of the paper industry here, merchants are more concerned with the headaches incident to the various taxes imposed on their products, which, in a measure, will absorb profits. The weather conditions have in no way retarded the Easter buying; in fact it is reported that paper specialties have assumed more than seasonal proportions.

Encouraging indeed are reports telling of the increase in the movement of news and mixed paper into consuming mill channels. Inquiry shows considerable momentum and members of the trade here state it is evident that the reason board manufacturers are taking larger tonnage is the unprecedented use for more raw materials, with an alarming scarcity prevailing. The situation in prices of news and mixed paper has reached a point where it can be said the tone is definitely firm with consuming demand reporting continued expansion.

Charles A. Spangler, a life-long resident of Spring Grove, Pa., died Saturday evening at his late home in South East Street. Mr. Spangler became ill suddenly at his home a week ago and has been confined to his bed ever since. His death was attributed to a complication of diseases. He was 74 years old. Mr. Spangler was a retired employee of the paper plant of P. H. Gladfelter Company at which place he worked many years. He is survived by his widow, Laura J. Spangler, and the following children: Mrs. Ralph Berkheimer, Cleveland, Ohio; Guy Spangler, Hanover; Paul Spangler, York; Charles Spangler, Jr., Spring Grove; Mrs. Arthur Miller, Hanover; Robert Spangler, Spring Grove; and twenty-two grandchildren.

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De Laval geared turbine driving forced draft fan; positive pump lubrication.

THE fuel economies of high pressure steam appeal to the practical steam plant operator, but he wants to be assured that they will not be offset by increased maintenance charges. In particular, he shies at added complication in equipment and operation, such as in reducing pressure and de-superheating the steam for auxiliaries.

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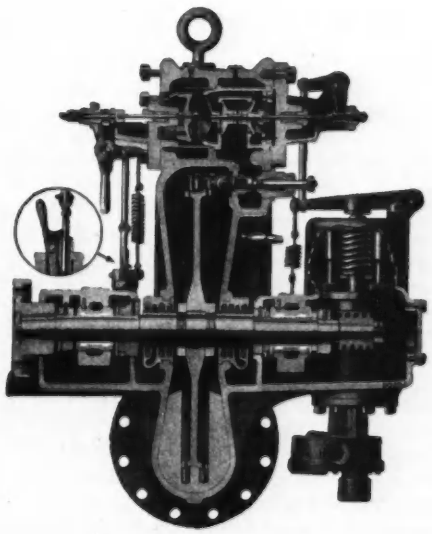
The wheel and the shaft are in contact with steam at exhaust pressure and temperature only.

The turbine casing, with the bearings, is supported near the center line, so that it can expand in all directions without affecting alignment.

For high temperatures, the governor regulating valve, the emergency shutoff valve, the steam strainer, the nozzles and the buckets are all of special heat-resisting alloys.

In combination with the De Laval Speed Reducing Gear, and when exhausting to feed heaters or to process, this type of turbine shows high efficiency. Individual nozzle valves provide for maintaining this high efficiency under variable load or steam pressure. It provides reliable, independent drive for fans, pumps, small generators, pulverizers, stokers, paper machines and other apparatus.



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Money and Pulp—II.

By ROGER J. EGAN

At the present juncture in the operation of the law of supply and demand (a law Congress forgot to repeal), I do not believe that I can make any accurate forecast either on exact price levels or the time that certain factors will begin to operate. However, I believe that there is a fundamental situation in the making that will have a very definite effect and will be recognized after the event, as a major factor.

This factor is money.

In July of 1934, an article written by me appeared in the PAPER TRADE JOURNAL entitled "Money and Pulp." I would like to quote the concluding statement in that article:

"The relation between pulp prices and currency changes is quite evident. Of course, factors other than currency can and will affect any prices, but a radical change in the administration's money policies will probably exert a major influence on pulp prices."

There have been other factors that have affected pulp prices and the ever changing balance between supply and demand will continue to affect pulp prices. The changes in supply and demand for chemical fiber can be analyzed and forecast with reasonable accuracy as to trend, but the forecasting of the changes due to currency can only be done in Washington.

I believe, therefore, that it is very important, in studying the development of pulp prices, to watch the Washington situation.

We all know that pulp prices have reached very attractive levels from the point of view of the pulp manufacturer, and I am told that the easiest job in the paper industry today is pulp selling. I, personally, feel that the present situation is just as hard as 1933 and 1934; perhaps, in a different way but I feel that my primary obligation as a salesman today is to help figure out, not the cause of what has happened, but to forecast what is going to happen.

The inflationary effect of the United States money program has been a large factor in present pulp price levels. It can be just as important a factor in a decline if the Administration decides that the time has arrived to deflate. An over-night deflation in the value of gold in terms of United States dollars can deflate the pulp price levels in the United States without relation to immediate world price levels.

In studying a world commodity such as pulp, any fundamental trend in the supply and demand ratio takes time to operate even though the actual price level may rise or fall due to some psychological situation affecting the minds of buyers and sellers. If the statistical and technical factors in the world pulp markets have created a condition which is about to, or has already started to, reverse a trend (regardless of whether this trend is up or down), any occurrence which can have a psychological effect on buyers and sellers may cause a rapid change in price levels even though the fundamental factors are moving slowly.

I view money changes as one of the factors that can have a profound psychological effect.

In conclusion I would like to repeat the statement above quoted:

"Factors other than currency can and will affect any prices, but a radical change in the Administration's money policies will probably exert a major influence on pulp prices."

New York Paper Mills Busy

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., March 29, 1937—Paper manufacturing concerns in this district are observing near capacity operations in most instances and many companies for the first time since the depression days are finding it necessary to expand in order to keep pace with the upward trend. Announcement is made by the Bagley & Sewall Company that the concern has enough work to insure employment for the remainder of the year at least. It was also stated that the Brownville Paper Company and the Brownville Board Company have such a volume of orders that they have been unable to fill them on schedule. The bag factory of Taggart Brothers is running at capacity and Knowlton Brothers has been forced to expand in order to keep up with its increasing business. It is claimed by observers that paper mill operations are at least 15 per cent ahead of last year and the outlook is considerably better than it was a year ago.

Announcement is made by Knowlton Brothers that a lease of the Analomink Paper Mill at Minisink Hills, Pa., near Stroudsburg, has been taken in order to permit business expansion. The plant is of one machine capacity, a 72-inch Fourdrinier, and will be used for the additional tonnage needed over orders now being made at the Watertown plant. The leased property was at one time operated by Charles E. Outterson, a member of the family who developed many of the paper making plants in Northern New York. About 25 men will be employed at the new factory and only Leslie Simser, laboratory technician, of the Watertown mill will be transferred to the new site. James J. Murphy, of Manchester, Conn., is to be the plant superintendent.

Drive for European Jewish Relief

A luncheon meeting of prominent officials in the paper and allied industries was held at the Hotel Astor, New York, March 25 to organize the combined campaign of the Joint Distribution Committee and the United Palestine Appeal in this industry.

The spirit of enthusiasm and cooperation evinced at the luncheon resulted in pledges totalling $3,175. Spokesmen for the industry assured those present that the $15,000 quota in the paper industry would be fully subscribed.

Jacob Sincoff, of the Empire Boxboard Corporation, was elected chairman and Morris Relkin, Majestic Paper and Twine Company; Jos. H. Simon, Ace Paper Company; Robert Rudnick, Mutual Paper Company; and Herman P. Price, of A. Price & Sons, were appointed co-chairmen of the Joint Drive. Abraham Mazer, Hudson Bag Company; Max L. Weill, Reliance Paper and Twine Company; and Abraham Herman, were elected as honorary chairmen.

Stevens & Thompson Raises Wages

[FROM OUR REGULAR CORRESPONDENT]

BENNINGTON, Vt., March 29, 1937—Announcement made recently by the Stevens & Thompson Paper Company that all employees in its three mills would receive a 10 per cent wage increase starting April 10, brings to the front the improved wage scales prevailing in the more important industrial plants in Hoosick Falls and vicinity.

Decision to increase wages of Stevens & Thompson employees was brought about, the management states, by a desire on the part of the company to attain a wage scale that will "correspond to the increased cost of living." The action affects 120 employees at the Walloomsac and North Hoosick mills, and 200 workers in the plant at Middle Falls.

St. Regis Earnings Up

The St. Regis Paper Company and subsidiaries report for 1936 a consolidated net profit of $730,085 after all reserves, charges and taxes, including $154,000 provision for surtax on undistributed profits. This was equal, after a year's preferred dividend requirements, to 10.2 cents a share on 4,120,714 common shares, compared with a loss of $395,482 in 1935.

Net sales and other operating income aggregated $10,738,654, against $9,143,818 in 1935, and operating income after costs and sales, expenses and general taxes was $1,899,711, against $1,155,574. As a result of the recapitalization approved on Jan. 8, 1936, under which the stated value of capital stock was reduced $20,625,000 and operating deficits were transferred to capital surplus, earned surplus at Dec. 31 was $1,556,595, against a deficit of $3,972,397 the year before, and capital surplus was $19,898,769, against $21,119,434. Goodwill was written off $14,083,022 and patents were written down $1,694,808.

Net book value of property at December 31 was $27,762,942 and total assets were $58,698,154. Current assets were $6,659,578, including $2,078,685 cash and $3,172,518 inventories at cost, and current liabilities were $7,334,288, including $5,900,000 secured bank loans.

Total investments were carried at $23,163,021, with a year-end market or net worth value of $13,080,000. Principal holdings were 1,341,666 shares of United Corporation common stock, of which 1,300,000 are pledged, and 230,000 shares of Taggart Corporation common stock, all pledged.

R. K. Ferguson, president, pointed out in his report that expanding paper consumption and greater use in rayon, staple fiber, plastics, &c., had brought about sharp advances in sulphite and kraft pulp prices and that at the moment an actual shortage of these pulps existed.

"In order to be assured of an adequate supply of high-grade pulp," he said, "the corporation appropriated a substantial sum for rehabilitating and installing additional machinery and equipment in the mill of its subsidiary at Tacoma, Wash. To provide part of these funds the corporation increased its demand bank loan by $1,000,000. It made a further appropriation for construction of a bleached sulphite mill at Deferiet, N. Y., which will produce 10,000 tons a year."

New Pneumatic Loading System

A new system for roll loading, known as the Foxboro Pneumatic Loading System, has recently been announced by The Foxboro Company, of Foxboro, Mass. By a simple turn of a knob the loading pressure on press rolls, calenders and super-calenders is instantly adjusted to the desired amount. Smooth adjustments are said to be assured, and a provision is made for unloading either one end, or both ends of the roller simultaneously, by merely flipping a valve. In addition to this the pressure is being recorded continuously on both ends of the roll by means of a two-pen Foxboro Recorder.

It is claimed that demonstrations have proved this new Foxboro system does a better job than former attempts with weights and other means. After the pressure of the rolls is once adjusted it remains constant. The exact degree of loading is always known and can always be duplicated. Even after unloading when the valve is returned to its former position the identical loading that existed before the break is re-applied. Variations in the air supply do not affect the operation of this system.

Government Paper Awards and Bids

WASHINGTON, D. C., March 31, 1937—The National Pulp and Paper Company has been awarded the contract for furnishing the Government Printing Office with 440,000 pounds of newsprint paper in 32" rolls at 2.25 cents per pound.

Reese & Reese will furnish 36,000 pounds (360,000 sheets) of 25 x 38" antique book paper at 5.26 cents per pound and the Perfect Safety Paper Company will furnish 4,000 pounds (30 rolls) of blue U.S.M.O. writing paper at 9 cents per pound. Bids for all of these items were received on March 15.

The Cauthorne Paper Company will furnish 100,000 pounds of supercalendered book paper in 38" rolls at 5.05 cents per pound, bids for which were received on March 12.

The Printing Office received the following bids for 120,000 pounds (448,000 sheets) of 100 per cent rag, M.F. book paper: Lee Paper Company, at 20.197 cents per pound (for 40,000 pounds only); R. P. Andrews Paper Company, 24 cents; Mathers-Lamm Paper Company, 26 cents (for 36,000 pounds only); and Paper Corporation of United States, at 20.95 cents (for 45,000 pounds only).

For 46,000 pounds (200,000 sheets) of offset book paper; Stanford Paper Company, at 6.06 cents per ponnd; Cauthorne Paper Company, 5.97 cents and 6.12 cents; John F. Post, Inc., 6.07 cents; Reese & Reese, Inc., 6.19 cents and 6.04 cents; Whitaker Paper Company, 6.06 cents; R. P. Andrews Paper Company, 6.06 cents; Mathers-Lamm Paper Company, 6.06 cents; Barton, Duer & Koch Paper Company, 6.12 cents; Old Dominion Paper Company, 6.2 cents; and Paper Corporation of United States, 5.92 cents.

For 5,072 pounds (10,000 sheets) of 100 per cent rag white chart paper; Reese & Reese, Inc., at 24.83 cents per pound; R. P. Andrews Paper Company, 25 cents; Mathers-Lamm Paper Company, 26.2 cents and Old Dominion Paper Company, 37.98 cents.

The National Pulp and Paper Company will also furnish 120,000 pounds of newsprint paper in 32" rolls at 2.25 cents per pound, bids for which were received on March 17.

Swedes Inspect Union Paper Mill

SAVANNAH, Ga., March 29, 1937—Prominent officials of the pulp and paper industry of Sweden, who arrived in the United States recently to make a survey of the expansion of the industry in the Southern states, inspected the plant of the Union Bag and Paper Company.

James H. Allen, executive vice-president of the Union Bag, received the visitors and showed them about while they were here.

The party was in charge of E. E. Barrett, vice-president of the Mead Sales Corporation of New York, and included T. Hernod, managing director of the Swedish Pulp Company of Stockholm; Gustav Gergenson, manager of mill operations of the Swedish Pulp Company; Einia Slygt, general sales manager of the company, and Per Wohlin, managing director of the Svenska Bank at Stockholm.

N. R. Johaneson, president of the Johaneson, Wales & Sparre Company, and Fred Enders, of the Bulkley Dunton Pulp Company, Inc., both of New York, also were in the party.

"The purpose of the visit," Mr. Barrett stated, "is to determine just what is taking place in the Southern states regarding the manufacture of pulp and paper, and the possibilities of the new industry upon the world market."

The group made a tour of inspection of the pine forests in the Chatham county area following their visit to the plant of the Union Bag and Paper Company.

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COMING EVENTS IN THE PAPER INDUSTRY

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Fourth Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Annual Meeting, Springfield, Mass., June 23-25.

FOREIGN PAPER TRADE ACTIVE

Exports of paper base stocks during January, 1937, showed a total value of $670,003, an increase of approximately 25 per cent over $538,349 during the first month of 1936, according to the Forest Products Division of the Department of Commerce. The rise in value of exports was a general one in so far as class was concerned, no particular base stock accentuating decidedly over another. Pulpwood totaled 573 cords valued at $3,273 in January, 1937, as compared with 420 cords valued at $2,520 for the like month of 1936. January, 1937, wood pulp exports amounting to 7,998 tons, showed a decrease of 1,651 tons compared with the 9,649 tons exported in January, 1936; the value of wood pulp exports being $518,066 and $449,785, respectively.

Total value of paper and manufactures during January, 1937, was $1,922,995 compared with $1,822,198 for January, 1936. This represents a gain of only 5.5 per cent. Exports of newsprint during the month of January, 1937, decreased 80 per cent compared with exports during the same month of 1936. However, book paper increased by 157.8 per cent during January of the current year.

Other substantial increases were notable in cover paper by 72.6 per cent, kraft wrapping by 89.5 per cent, toilet paper by 113 per cent, bristol and bristol board by 56 per cent, all other boards 45 per cent, fiber insulating board or bats by 48.6 per cent and boxes and cartons increased 46.7 per cent. Tissue and crepe papers, sheathing and building papers, blotting, papeteries, and vulcanized fiber also showed rises in January, 1937, as compared with January, 1936.

Comparatively few papers, other than newsprint, decreased to any great amount during January, 1937. Old and over issue newspapers show a loss of 51 per cent, boxboard decreased 50.7 per cent and wallboard 41.5 per cent. Although writing paper exports declined by 20 per cent, at the same time their value increased 45.6 per cent. Paperhangings showed a similar trend.

An increase of less than one per cent was noted in importations of paper base stocks during the month of January, 1937, as compared with the like month of 1936, the total values being $8,041,419 and $7,985,968, respectively. Pulpwood imports during January, 1937, totaled 65,867 cords. Wood pulp imports totaling 190,645 tons were divided as follows: unbleached mechanical pulp 16,745 tons, bleached 1,768; unbleached sulphite 79,909, bleached 39,198; unbleached sulphate 43,710, bleached 8,168 and soda pulp 1,147 tons.

Corresponding figures during January, 1936, were: unbleached mechanical pulp 15,966, bleached 2,241; unbleached sulphite 74,659, bleached 38,770; unbleached sulphate 67,126, bleached 9,375 and soda 996 tons, bringing the total to 209,133 tons.

Comparisons of the above amounts of wood pulp imports indicate January, 1937, figures are approximately 9 per cent under those for January, 1936. Thus, it is seen that little or no change has been made in either value or quantity of paper base stock imports for the first month of 1937 as against the first month of last year.

Total import value of paper and manufactures for the month under discussion was $9,660,260 as against $7,280,172 during January, 1936, or an increase of 32.7 per cent. As usual, newsprint accounted for some 85 to 90 per cent of the imports of paper and manufactures. A very large increase in wrapping paper, other than kraft, was noted in January of the current year as compared with January, 1936. Other substantial increases were noted in newsprint paper, tissue papers, uncoated, decorated and embossed papers, paperboard, pulpboard, cardboard and leatherboard, hanging papers, duplex decalcomania papers and paper boxes.

Of the decreases reported for January, 1937, imports of kraft wrapping were the most outstanding. After climbing to a high level during the latter months of 1936, imports dropped off 60 per cent compared with December, 1936, and were 51.7 per cent below those of January, 1936. The increase in other wrapping papers did not in any wise serve to off-set this decrease in kraft wrapping paper. Other decreases were experienced in surface coated paper, pulpboard in rolls and cigarette books and covers.

$65 FOR NEWS PREDICTED FOR 1939

A special dispatch from Toronto to the *New York Times* states that practically every Eastern Canadian newsprint company will support the $50 base price established by the International Paper Company for the first six months of 1938.

Those companies which already have announced they will fall in line with International are Consolidated, Great

Lakes, Abitibi, Bathurst, E. B. Eddy, Brompton, Minnesota and Ontario, St. Lawrence, Booth, Price Brothers, Lake St. John, Anglo-Canadian, James MacLaren and St. Raymond.

In a cable despatch to *The Toronto Financial Post*, Lord Rothermere has predicted a $65 price by 1939. He said in part:

"For the second six months of 1938, I anticipate a price of something like $57 a short ton, which is preparatory to $65 for 1939. A price of $65 is not unusual or excessive. In 1925, the price in Canada was $75, although then there was nothing like the demand for pulp other than newsprint purposes that there is today. Demand has definitely overtaken supply, and if there is no major international disturbance, there is nothing can avert an acute shortage in five years' time.

"In the great cities of Europe and America I expect the price of newspapers to the reader will be increased by not less than 50 per cent, so as to enable the newspaper publishers to pay the vastly increased cost. In this way newspapers will be able to escape a policy of reduction in size, which otherwise would be unavoidable."

Concerns that have not yet announced newsprint prices for 1938 include the following: Beaver, Powell River, Spruce Falls, Great Northern, Crown-Zellerbach and Maine Seaboard. The present base price is $42.50 a ton.

Union Bag Plant for Vernon City

Union Bag and Paper Corporation will erect a new reinforced concrete and brick bag factory at Vernon City, just Southeast of Los Angeles, according to an announcement made in New York City by H. S. Daniels, vice-president of Union Bag and Paper Corporation. This location is in the heart of the central manufacturing district of Los Angeles and four miles from the heart of the city. The initial plant will have a capacity of over five million bags per day, plus highly specialized printing equipment for the production of fancy coffee bags and similar shelf packages.

The building will be a two story construction containing 80,000 square feet and will be devoted entirely to the manufacture of a wide variety of paper bags, including, in addition to the regular grocery bags, such specialties as cellophane bags, glassine bags, kraft sacks, shopping bags, etc.

The plant is estimated to go into production in July, 1937 and will service the entire Coast area. Union Bag and Paper Corporation has other bag factories located at Hudson Falls, N. Y.; Chicago, Ill.; Savannah, Ga.; and Bogalusa, La. In addition it has paper mills at Hudson Falls, N. Y.; Kaukauna, Wis.; and Savannah, Ga.

"This new plant at Vernon City is a move to have a more central location for servicing our customers on the West Coast," said H. S. Daniels, vice-president of the corporation.

American Tissue Display

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 31, 1937—The merchandising display of the American Tissue Mills, Inc., has been removed from Chicago to this city. The department employs ten men and two girls and the display will take up about 2500 square feet in the main building. L. R. Schroeder is in charge, assisted by Andrew Kopp.

Production Ratio Report

The following statistics are based upon paper production reports to the American Paper and Pulp Association:

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.3%(c)	76.1%	65.8%	.....
February	90.1%(c)	77.9%	70.0%	.....
March	.....	76.0%	70.5%	.....
April	.....	82.3%	70.0%	.....
May	.....	81.6%	69.4%	.....
June	.....	80.7%	72.3%	.....
July	.....	77.3%	64.9%	.....
August	.....	81.5%	70.9%	.....
September	.....	80.5%	71.9%	58.2%
October	.....	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 11 weeks	89.9%(c)	77.3%	68.0%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*March 6	88.2%(c)	March 7	79.4%
*March 13	89.9%(c)	March 14	78.5%
*March 20	88.7%(c)	March 21	71.0%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks		
Ratio Limits	March 6, 1937	March 13, 1937	March 20, 1937
0% to 50%	41	30	30
51% to 100%	271	268	192
Total Mills Reporting	312	298	222

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported on January 4, 1937 Machine Improvement Survey.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours", were as follows:

Months	1937	1936	1935	1934	Months	1937	1936	1935	1934
January	78%	61%	61%	....	July	....	69%	59%	....
February	....	67%	67%	....	August	....	75%	65%	....
March	....	68%	67%	....	Sept.	....	76%	69%	62%
April	....	70%	61%	....	Oct.	....	82%	76%	63%
May	....	68%	61%	....	November	....	79%	70%	56%
June	....	68%	65%	....	December	....	74%	60%	52%

Week ending Feb. 6, 1937—86%
Week ending Feb. 13, 1937—86%
Week ending Feb. 20, 1937—85%
Week ending Feb. 27, 1937—86%
Week ending March 6, 1937—86%
Week ending March 13, 1937—84%
Week ending March 20, 1937—87%

New Mills for Finland

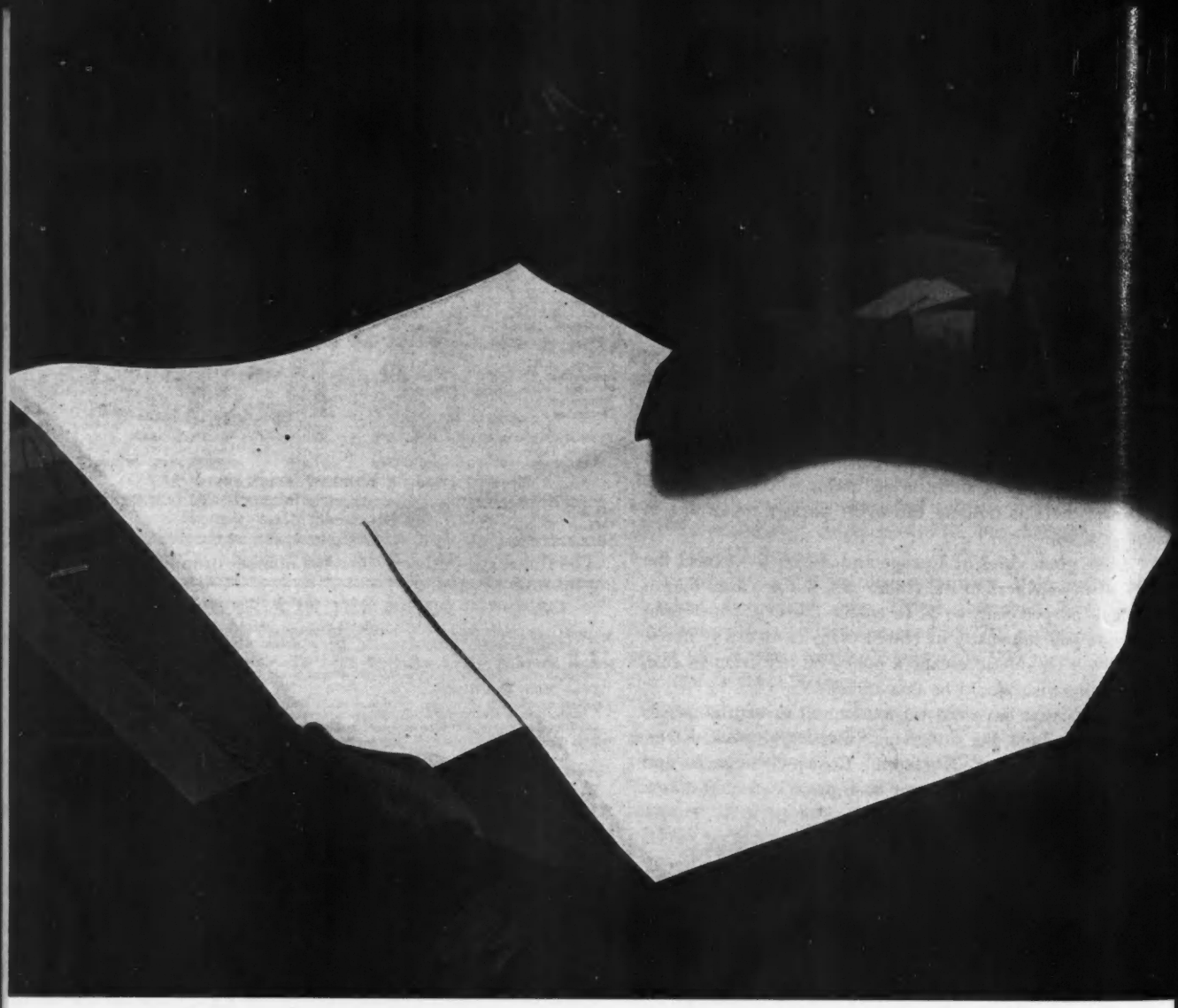
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 31, 1937—The most important new construction planned in Finland is the increased facilities soon to be available for the production of sulphate pulp, according to reports from Consul Archibald E. Gray at Helsingfors. When the new mills in Oulu (Uleaborg) and Sunila (near Kotka) go into production, Finland's sulphate production will be twice as large as in 1935. In the sulphite industry improvements have been largely confined to modernization of the plant due to the agreement restricting production until the end of 1938, although a new sulphite mill will be erected at Aanekoski and is due to be completed in 1938.

A new sulphate mill at Heinola is also contemplated, although the final decision on this matter will only be taken in a month or so. A newsprint mill is planned at Inkeroinen. Building will be started this April and the mill will be completed in the beginning of 1938. Its daily capacity will be 130 tons.

Trotman With Roots-Connersville

J. B. Trotman, who for many years was associated with Goulds Pumps, Inc., and is widely known in the pump field, is now located at Connersville, Ind., as manager of the 'T' pump division of Roots-Connersville Blower Co.



Better Color Is Always in Demand

And many manufacturers are enjoying greater sales by meeting the demand with papers made whiter with Zinc Sulphide Pigments. Papers that are more opaque, too, with less "show through" to tire the eye or divert the mind.

Several types of such papers are being featured by progressive dealers. And all the types are identified by this improved color which bespeaks quality and which makes them attractive to the consumer.

Through the wide range of Cryptone and Albalith Zinc Sulphide Pigments, the paper manufacturer is offered a convenient means of producing these new papers of better color and opacity.

If such characteristics are of interest in your market, we shall appreciate an opportunity to discuss your problem with you. Our Research Department is the largest in the world devoted to the development and application of white pigments.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK

ZINC SULPHIDE PIGMENTS IN PAPER

Section of the

Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Bauer Bros. Co. Appeal

On December 14, 1936, the Bauer Brothers Company of Springfield, Ohio, filed an appeal in the Circuit Court of Appeals of the Fifth Circuit from a decision of Judge Borah of the Federal Court for the Eastern District of Louisiana holding Patents 1,711,706 and 1,713,593 invalid and not infringed. Judge Borah's decision was printed in full in the PAPER TRADE JOURNAL of February 18, 1937 (Page 29).

In its appeal the Bauer Brothers Company alleged that Judge Borah had made nineteen errors. The errors which relate specifically to the art of paper-making read as follows:

2. The Court erred in holding that the words "rolling and crushing" and the word "hydration" appearing in the Weiss claims were not definitely defined either by the patent or the testimony.

3. The Court erred in holding the words "rolling and crushing" and the word "hydration" as indefinite and unexplained and also that the same action defined by said words is found in other patents in the art, notably the Grafflin and Fritz patents.

4. The Court erred in not holding that the words "crushing and grinding" are common words needing no explanation and were used by Weiss and given their ordinary meaning. The patent shows that such words define an action differentiating from the action of cutting and grinding; also, the Court erred in not holding the word "hydration" is a common word in the art defined in any modern standard dictionary as a chemical term defining a process for combining certain materials with water and that to those skilled in this particular art the word "hydration" in the Weiss patent means a process for chemically combining fibrous materials with water.

5. The Court erred in construing the testimony of the Witness Bauer as to "hydration" and in holding that "therefore hydration would be present in all of the prior patents set up by defendant." The particular error is that the apparent holding that "hydration" is a physical entity that may be found in particular mechanisms instead of an intangible though definite action or operation and also in construing this testimony the Court ignored the element of time included by the Witness Bauer to the effect that while hydration might be secured under various conditions by a long continued operation, by the Weiss process hydration is secured by a minimum of time.

8. The Court erred in holding the Weiss patent invalid as lacking in the definiteness and distinction required by the Statutes in the use of the words "rolling and crushing" and "hydration", which were common terms in the art.

11. The Court erred in holding all of the Weiss claims invalid in view of the Fritz patent, not identified, apparently because the Fritz patent mentions hydration which seems to be the only thing in common between the Fritz patent and the Weiss process. Weiss makes no claim to be the inventor of or first to produce, hydration but only as to the steps in the process of which hydration is one of the results in producing a complete wood pulp. The Court also erred in holding that Weiss had failed to carry his invention back of July 12, 1922, which was the date of the Fritz application.

12. The Court erred in holding all the Weiss claims invalid as embodying a mere double use of Sprout Waldron attrition mills used for many years in grinding various materials, ignoring the fact that neither Sprout Waldron nor the plaintiff had ever produced wood pulp until taught by the Weiss patent how to do it. The Court also ignored the fact that in spite of Sprout Waldron's long experience with attrition mills, in installing defendant's plant for producing wood pulp (after plaintiff had had a number of successful years in this art) they copied plaintiff's installation from drawings furnished to defendant by plaintiff on a promise to place an order with plaintiff and this was the first and only installation which Sprout Waldron had made up to the date of hearing.

It is expected that the appeal will be heard at an early date.

Kalamazoo TAPPI to Discuss Printing Inks

The next meeting of the Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry will begin with a dinner on the evening of Thursday, April 8. The meeting will be one of outstanding interest to paper makers and those associated with the trade.

There will be two speakers, Paul J. Thoma, vice-president of the E. J. Kelly Company, manufacturers of fine printing inks, who will give a paper and lead a discussion on "Modern Developments in the Field of Printing Inks." It is believed that they will stress particularly such items as Gloss inks and Vaporin inks.

J. J. Murray, president of the Kalamazoo Label Company, will draw on his wide experience in the field of printing to discuss "Paper Specifications and the Relationship Between Paper and Printing."

Mr. Murray has intimated that he will suggest a closer tie up between the paper buyer and the mill technician through the salesman.

The meeting will start at 6:30 P. M. with a dinner at the Park American Hotel. All are welcome to attend.

Instrumentation Studies. X

A Discussion of Methods for Measuring Smoothness of Paper with Special Reference to a New Electrical Capacitance Method

By The Staff of The Institute of Paper Chemistry

The surface and volume characteristics of a sheet of paper which determine its "smoothness" have been discussed in some detail in the eighth paper of this series. Smoothness is a complex term having multifarious special meanings. This situation is due to the circumstance that there are many subjective ways in which smoothness is judged; and it is because of this situation that no instrument has been developed which will yield an index of smoothness which would be satisfactory to all users of paper. If all special meanings of smoothness which depend on merely minor differences of subjective modes of judgment are stripped away, it is found that only two important types of smoothness exist, namely, (1) smoothness of the free surface, and (2) smoothness of the surface when the sheet is under pressure produced by a plane surface. The first type of smoothness is determined by the actual deviations of the free surface from a plane. This type of smoothness would be completely described by specification of the magnitude and frequency of surface irregularities. Strictly speaking, such a specification would suffice for a description of nearly microscopic irregularities, wire and machine marks, large scale fluctuations (to which the senses of touch and sight are not sensitive), and, in the case of coated papers, pin holes, dirt specks, fish eyes, mounds of coating material, etc. The second type of smoothness obtains in printing, where the desideratum is smoothness while the paper is under the presses. Here, again, smoothness would be completely described by specification of the magnitude and frequency of deviations of the compressed surface from the compressing surface. In smoothness of the first type, surface irregularities and variations in thickness of the sheet necessarily go hand in hand, while the important factors which determine smoothness of the second type are smoothness of the first type, uniformity of thickness, formation, uniformity of filler retention, and compressibility.

Smoothness of the first type may be measured directly, as has been done by Robert Rusch (Master's Thesis, The Institute of Paper Chemistry) by means of a microscope with the aid of a micrometer focusing screw. While the method of direct measurement yields an accurate contour of the surface, and is quite satisfactory for research purposes, it is far too tedious for the routine grading of smoothness. Various other existing and possible methods have been carefully considered from both theoretical and practical viewpoints and will be discussed below. The first section deals with methods applicable to the measurement of smoothness of the first type, while the methods described in the second section are primarily applicable to printing smoothness.

Section 1. Methods For Measuring the Smoothness of a Free Surface

IA. Direct Measurement of the Surface Contour by Means of a Microscope With Micrometer Focusing Adjustment. A microscope is focused on a small area of the free surface, and the vertical position of the microscope is noted. The paper is then moved through a small, predetermined distance, the microscope is again focused, and the new vertical position is noted. In this fashion, a profile of the hills and valleys of the surface may be obtained. If a single figure representing smoothness is desired, the *mean*, or *root-mean-square* of the deviations may be computed from the profile curve. The limitations of a single figure for smoothness have been discussed in a preceding paper, hence further discussion of this point will not be given here. As this method is obviously tedious and exceedingly time-consuming, it is not suited for routine grading of smoothness.

IB. Direct Measurement of the Surface Contour by Means of a Small "Rider" Under Which the Paper Surface is Caused to Move. The variations in the vertical position of a small rider which follows the contour of the (nearly) free surface is amplified by means of an optical lever or electrical bridge. In the former case, the deflections of a spot of light on a scale are divided by a known amplification factor to get actual displacements of the point of the rider. This method, while time-consuming, is probably faster, more accurate, and less tedious than method *IA* above. In the latter case, the rider would be connected to one plate of a small electrical two-plate condenser, and the variations in the vertical position of the point of the rider would be quickly and accurately measured through measurement of the electrical capacitance of the condenser. In other fields of work, exceedingly small displacements have been measured by means of the capacitance method, hence this method would be quite successful in application to the measurement of surface contour of paper. However, the method suffers the drawback of slowness common to all methods of direct measurement.

IC. The Electrical "Pick-up" Method. The paper surface is caused to move under a small rider at uniform speed. The rider replaces the needle of an electrical phonograph pick-up, and the complex alternating current generated in the pick-up by the mechanical vibration originating in the relative movement of the rider over the hills and valleys of the paper surface is amplified by means of a vacuum-tube amplifier. The "output" of the amplifier is connected to a suitable electrical meter, the reading of which is a function of the magnitude and frequency of the surface irregularities of the paper.

This method was made the subject of a preliminary research. Samples were cut in the shape of phonograph records. A large, smooth metal disk was placed on an electrically driven turntable, the sample was placed on the metal disk, and held flat against it by a second, smaller, but heavier metal disk. The pick-up, equipped with a special rider, was lowered onto the sample, and the output meter reading was taken as a measure of smoothness.

Measurements taken on many samples showed that the output meter reading was definitely a function of the roughness of the paper. Certain imperfections of the disk on which the sample was placed, and of the rider, introduced spurious effects. As the research was of a preliminary nature, no extensive work was carried out with the view of eliminating these imperfections. The method is theoretically sound, and there is no indication that further

work should not result in an instrument which would give at least a consistent index of smoothness.

1D. Friction Methods. The coefficient of friction between a metal surface and the surface of the paper under test, or the same between two sheets of the paper is taken as a measure of smoothness. Methods involving mechanical friction are unsatisfactory, because, (a) coefficient of friction is invariably an erratic quantity which cannot be measured with reasonable accuracy, (b) friction depends on adhesive (or cohesive) forces between the rubbing surfaces, and (c) accidental irregularities, such as mounds of coating material, have too pronounced an effect upon the coefficient.

1E. Methods Utilizing Oblique Illumination. A strictly parallel beam of light falls upon the sheet at grazing incidence. Shadows of the surface irregularities are greatly lengthened, and it is obvious that the amount of light diffusely reflected from the surface depends on the smoothness of the surface. This type of illumination renders the subjective visual estimate of smoothness more definite. A special type of oblique illumination in the use of the Paper Maker's microscope has made the visual comparison of small-scale roughness of papers more definite.

This method could be rendered objective by the proper use of a photocell. A ribbon of strictly parallel light would be made to fall on the surface at a predetermined, small angle, in such a way that all of the incident beam would fall within a predetermined area of the surface. A suitably mounted photocell directly above the surface would serve to measure the diffusely reflected light. The resulting photo-current would depend upon the reflectance and smoothness of the sheet. Now, the angle of the incident light would be changed to a larger, predetermined value at which the shadowing effect would be negligible. In its new position, the beam would pass through a concave cylindrical lens, in order that the area of the surface illuminated would be about the same as that illuminated initially. The photo-current would now depend largely on the reflectance. The ratio of the first photocurrent to the second, multiplied by a convenience factor, could be taken as a measure of surface smoothness. This method would have a serious weakness. Surfaces of high gloss do not scatter light according to Lambert's law, and the deviation from this law is most noticeable when the angle of the incident light is low. This means that the first photocurrent, relative to the second, would be spuriously low, and, as a consequence, the apparent smoothness would be too low. In other words, if a matte surface and a glossy surface had the same smoothness ratio, the glossy surface would actually appear the smoother. This error might possibly be minimized by the use of polarized light.

An attempt to measure smoothness by a method of this sort is briefly described in the eighth paper of this series. While the work was not carried to its logical completion, "the data collected on the improvised set-up correlated with a promising degree of regularity with visual smoothness."

1F. The Electrical Capacitance Method. The electrical capacitance of a two-plate condenser depends on the area A of the plates, the distance of separation of the plates d, and the nature of the insulting medium between the plates. The electrical quantity which suffices for the effect on the capacitance of the insulating medium is the specific inductive capacity (dielectric constant), K. The capacitance, C, (in terms of micro-microfarad) is given by the simple formula,

$$C = 1.11\ (KA/4\pi d),$$

when the insulating medium completely fills the space between the two plates. (If the insulating medium is simply air, $K = 1$).

If the two plates are separated by a sheet of paper, a simple condenser is formed. The capacitance is given very nearly by the formula above, in which d is determined by the thickest portions of the sheet, and the constant weight pressing the two plates together. The capacitance is measured with a capacitance bridge (a method of measurement capable of high precision). Knowing A, the area of the plates, the quantity K/d is computed by means of the above formula; d is the average spacing between the plates. One of the flat metal surfaces is now replaced by a liquid mercury surface. The mercury is contained in a cell of such a design that the area of contact with the paper is essentially the same as that of the metal plate which the mercury replaces. The mercury follows the contour of the surface, hence the mean separation between the electrically conducting surfaces d', is now smaller, or the quantity K/d' is larger. The capacitance is measured and the new and larger value of K/d' is computed. The ratio of the final capacitance, C', over the initial capacitance, C, is easily seen to be d/d'. Since K has cancelled out, this ratio is independent of all electrical properties of the paper. It is clear that the ratio d/d' being the ratio of the initial average separation to the final separation, is determined only by the uniformity of the thickness and surface of the paper. The final capacitance divided by the increase in capacitance is taken as a measure of smoothness. This makes smoothness proportional to $d/(d\text{-}d')$.

This method appeared so promising that it was made the subject of a thorough preliminary research. The bridge used for the measurement of capacitance is shown in Fig. 1. As this bridge is of standard form, little need be said about it here. The source of alternating e.m.f. was a 1000 cycle microphone hummer, and the null-point detector was a vacuum tube amplifier with output connected to a rectifying voltmeter. The variable 50,000-ohm resistance in the arm of the bridge containing the standard variable condenser was of the non-inductive type, and its purpose was to equalize phase angles. This arrangement was exceedingly sensitive to small capacitance changes. The "mercury smoothness cell" is sketched in Fig. 2. The two plates were of brass, carefully ground to a good degree of flatness. For the second measure-

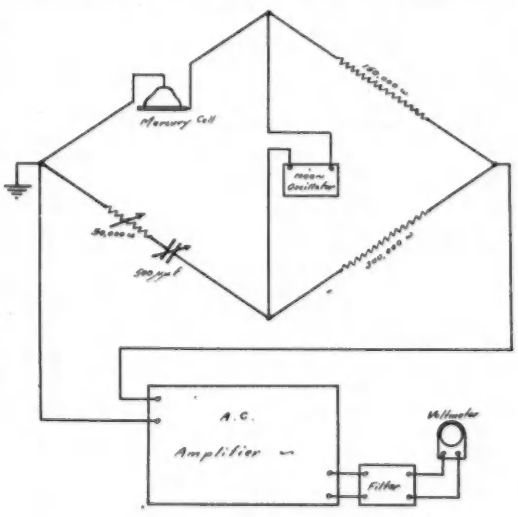


Fig. 1.

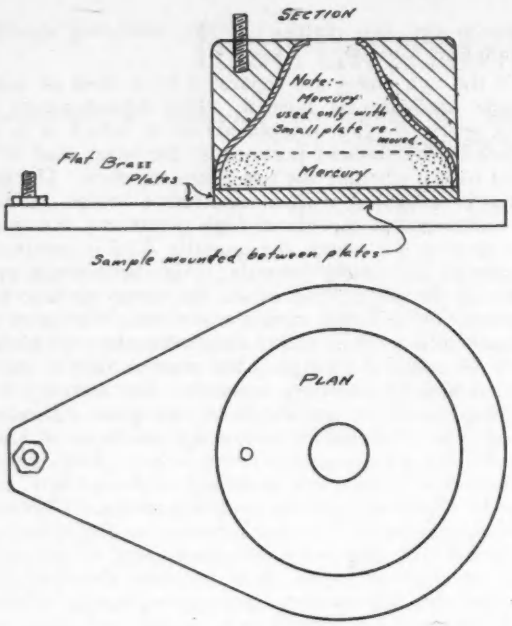


FIG. 2.

ment, the top plate is removed, the cell is lowered on the paper, and the mercury is admitted through the hole in the top of the cell. Surface tension prevents the mercury from leaking out, so that a seal between the paper and cell was unnecessary.

The results of measurements with this method are given in Table I. The samples are ordered by the mercury cell method, and the values given in the second column are of the quantity, $C'/(C'—C)$. Bekk and Gurley smoothness values are given in the third and fourth columns. In the last three columns, the visual gradings of four observers are given. The numbers following the instrumental readings in parentheses represent the grading of the samples by those readings. Inspection of the table will reveal that there is virtually no correlation between the three instruments. No correlation between any one of the three sets of instrumental data and the visual grading exists.

TABLE I.—COMPARISON OF INSTRUMENTAL READING OF SMOOTHNESS WITH VISUAL GRADING OF COATED BOOK PAPERS

Sample No.	Mercury-cell smoothness	Bekk	Gurley	Visual Observers 1 & 2	3	4
106F	3.40 (1)	22 (11)	369 (10)	9	11	9
108W	3.31 (2)	34 (9)	512 (6)	5	7	6
109F	3.27 (3)	38 (7)	464 (9)	7	4	7
103W	3.00 (4)	47 (4)	686 (3)	1	1	1
104W	2.96 (5)	44 (5)	742 (2)	6	6	5
114F	2.91 (6)	70 (2)	653 (4)	4	3	4
115F	2.81 (7)	42 (6)	468 (8)	8	10	10
110F	2.79 (8)	27 (10)	232 (11)	11	9	11
101W	2.74 (9)	36 (8)	497 (7)	10	8	8
119F	2.61 (10)	66 (3)	856 (1)	3	5	3
100W	2.53 (11)	77 (1)	612 (5)	2	2	2

The absence of correlation between the new method and the visual grading is at first sight very puzzling, since a measured increase in capacitance of the mercury cell must necessarily mean that the sheet is dimensionally irregular; and the magnitude of the capacitance increment must go hand in hand with the magnitude of the sheet irregularities. The mercury cell "smoothness" is unquestionably a measure of the lack of uniformity of the thickness of the sheet, hence also a measure of the deviations of the surface from a plane. The situation is clearly understood in the light of the consideration that no one measurement can give both the magnitude and frequency of surface irregularities. A single instrumental value could be the result of a few large-scale irregularities, or of many small-scale irregularities. More than a single measurement is required for a separation of magnitude and frequency. The method under consideration is particularly sensitive to large-scale irregularities. It has already been indicated that the senses of touch and sight are not sensitive to slow undulations in a surface, particularly when the surface is glossy. To test this qualitatively a coated sheet, which was judged to be very smooth, was placed between the flat plates of the apparatus described above. The top plate was then rubbed over the surface of the sheet with a circular motion. The high spots of the sheet were darkened by deposits from the metal surface, and the resulting pattern showed very clearly the nature of the large scale variations. The dimensions of the spots were of the order of a few millimeters. Viewed in this fashion, the sheet appeared quite rough; the type of roughness thus rendered visible is apparently slighted in the visual judgment of smoothness, and the observed lack of correlation is explained.

The value of C' is not appreciably influenced by nearly microscopic irregularities of the sort which influence the sensory judgment of smoothness. This is due to the fact that the surface tension of mercury is sufficiently large to prohibit the flow of the mercury into the small-scale structure of the surface. If finely divided graphite were rubbed into the surface structure, however, the mean separation between the electrically conducting surfaces would be further reduced, and this further reduction would be due entirely to the small-scale irregularities. Hence, if the cell were filled with mercury after the graphite had been rubbed into the surface, and a third capacitance value, C'', measured, the small scale smoothness could be computed using the formula, $C''/(C''—C')$. The mercury cell method, thus amplified, would give a two-valued measure of smoothness, and would constitute an important step toward resolving magnitude from frequency of surface irregularities.

To test the ideas presented in the foregoing paragraph, it would be necessary to resort to a somewhat more refined method than has actually been used; however, the improved method would be quite practical. Unfortunately, lack of equipment and time would not permit work in this direction.

Section 2. Methods for Measuring the Smoothness of a Compressed Surface.

2A. THE METHOD OF AIR RESISTANCE. The paper is compressed against an annulus having an exceedingly flat surface. Air under a pressure differential is caused to escape from a reservoir through the spaces between the paper and annular surfaces. The time required for the pressure differential to fall between accurately specified limits depends, among other things, upon the magnitude and the frequency of the irregularities of the paper surface. Hence this time is taken as a measure of smoothness.

This is the basic principle of the Bekk, Gurley and Williams testers. In addition to the shortcoming of yielding a single-valued measure of smoothness, the method suffers one important defect: the rate of escape of a gas through a capillary or channel of any shape is proportional to the *fourth* power of a dimension of the channel. This means that undue emphasis is given by the method to the presence of accidental particles and defects, such as coating mounds, and to the large-scale irregularities. For specific data and further discussion on instruments based on this method, the reader is referred to the section of the Instrumentation Program entitled "The Bekk and Gurley Smoothness Testers." (Instrumentation Studies. IX.)

2B. The Davis Smoothness Tester. This method was made the subject of a thorough investigation. Among the conclusions reached were:

1. The instrument does not grade coated papers in agreement with the visual gradings of any of the members of the Technical Sub-Committee.

2. Taking formation into account, the instrument seems to give a reasonably good measure of printing smoothness on finished coated papers.

It is fairly clear, from a consideration of the theory of the method, that the Davis tester was designed to measure printing smoothness, hence it is not legitimate to expect the method to be applicable to the measurement of smoothness of a free surface. Further, in view of the apparent impossibility of judging how smooth a surface would be under pressure by a visual inspection of the free surface, it would seem very unsatisfactory to relegate this method to oblivion on the basis of comparison with visual judgment alone. Certain defects of the method as it had been used have been recognized. For example, the pressures required to produce an appreciable area of optical contact between the paper and glass surfaces were much too high. A number of promising revisions of the method, one of which is given space below, have not been attempted. In view of this, and the consideration that much time and effort have been expended on this theoretically sound method, it would seem logical to make the development of the Davis tester the subject of further investigation.

The enormous pressures found necessary in past work with the Davis tester are understood in the light of the fact that, for optical contact between the surfaces of two transparent substances, it is necessary to bring the surfaces together with a separation amounting to only a few *millimicrons*. It is not necessary to go into a theoretical treatment of the elastic and optical properties of paper to explain that, under ordinary pressures, the relative area of optical contact between the glass prism and the paper would be very small. At least one promising variation of the technique of the method arises from the consideration that a transparent liquid, such as a clear oil, makes immediate optical contact with a glass surface when brought into touch with the latter. For example, if the face of the glass prism were covered with a thin, uniform film of clear oil, and were then brought into contact with the paper surface, optical contact with the high spots of the paper surface would probably be established at low pressures. With increasing pressure, the area of optical contact would increase at a rate depending on smoothness and compressibility (both characteristics being of importance in printing), and the thickness of the oil film; and it is apparent that the pressure required for nearly the whole of the available surface to come into optical contact would be reasonably low. This variation in the technique would bring the method closer to actual printing operation, since a flat surface bearing a film of oil would be brought on to the surface of the paper with the application of pressure. Technical difficulties would be encountered, some of which may render this suggested technique ineffective, but it is felt that the general method is too important not to be made the subject of further investigation.

Summary

An attempt is made to simplify the objective meaning of "smoothness." Smoothness is a term complicated by many subjective meanings. From a purely physical viewpoint, smoothness is a characteristic of any surface which would be completely described by a specification of the magnitude and frequency of the surface irregularities. Smoothness of two types is recognized: (1) smoothness of a free surface, and (2) smoothness of a compressed surface. Various methods for measuring smoothness of the two types have been considered. The promise and limitations of each method are briefly dealt with. Particular space is devoted to a new "mercury-cell" or electrical capacitance method recently developed at The Institute of Paper Chemistry. A promising variation in the technique of the Davis tester is described, and it is urged that the Davis method be made the subject of further investigation.

Suggestions for Future Work

Further work should be done on the electric "pick-up" method *(1C)* and the electrical capacitance method *(1F)*, since both methods are theoretically sound and both give promise of being capable of yielding a multi-valued measure of smoothness. The better method would be used for measuring smoothness of the first type. For reasons that have already been discussed in detail, the Davis tester should be made the subject of further developmental work. If this method ultimately proves successful, it would serve the valuable purpose of yielding a single-valued measure of smoothness of the second type ("printing smoothness").

Camas Plant to Expand

Camas, Wash., March 29, 1937—Installation of a 25-ton sulphite digester, a new high pressure drier on No. 10 paper machine and completion of the big addition to the converting plant is announced by the Crown Willamette Paper Company.

The digester, which will produce 50 tons of sulphite pulp daily, will step up the plant's sulphite capacity to 300 tons a day peak load. Principal reason for the installation, officials said, was to allow for systematic checking and repairing of the other eight digesters. When one of these is down, it has been necessary to ship in pulp from the West Linn mill.

The converting plant addition was started last fall, and provides more than 40,000 square feet of storage space on its two floors. The Tissue company, a napkin and paper towel enterprise using locally made tissue, which is located on the top floor of the converting plant, plans to rent half of the second floor of the addition for storage space.

The old No. 10 drier will be shipped to the mill of the National Paper Products Company at Carthage, N. Y., a Crown-Zellerbach subsidiary.

Deerfield Glassine Mill Active

North Adams, Mass., March 29, 1937—Faced with the necessity of higher production of its specialized paper products to meet an ever increasing demand, the Deerfield Glassine Company is now operating its mill at Monroe Bridge on a seven day week basis.

The mill will operate week-days and Sundays until further notice. Additional men have been hired so that all hourly workers are on a five day basis. Approximately fifteen new workers have been added since the change went into effect.

Northern New York TAPPI to Meet

The members and friends of the Technical Association of the Pulp and Paper Industry will meet at the Hotel Syracuse, Syracuse, N. Y., Saturday evening, April 17, 1937, at 6:30 p. m.

The speakers will be Curtis Haskins, of F. C. Huyck & Sons, Albany, N. Y., who will describe the design, manufacture and use of paper machine felts, illustrating his talk with a sound-motion picture film.

There will also be entertainment during the dinner.

Aniline Printing*

By R. M. Bates[1]

Abstract

The use of aniline printing will probably always be restricted in the graphic arts trades because of certain fundamental characteristics, such as the liquidity and volatility of its ink. These same characteristics, however, give it many qualities which suit some purposes so admirably that the student of printing cannot afford to overlook this type of reproduction.

The desirability of printing paper webs and converting them to other forms in one operation provided the impetus to the development of aniline printing. The principal requirement was an instant drying ink. When a suitable combination was formulated it was named for its chief ingredient—aniline dye—which was then gaining popularity as an improvement over natural colors.

The simplicity of aniline printing made it a comparatively cheap process in its class and it was readily adopted by several branches of the paper converting trade, notably, paper bag makers. However, its low original cost has restricted the possibilities of any great advances toward further economies. The recent extensive research work of technical experts in the more important fields of printing has, therefore, narrowed the gap considerably. Furthermore, the extremely rigid demands for higher quality and novel treatment which have been made during the past five years have tended to add more proportionate cost to aniline printing than to other methods.

While its operating cost has thereby approached the level of the more common classes of printing, the comparatively small investment in capital equipment required makes the aniline process an attractive one in its field.

The depression of 1930-33 helped to push paper converters into the economies of aniline printing. Chemists set about the task of putting aniline inks on a level with others. Engineers refined rubber plate making and printing presses to the point where astounding precision made extraordinary results possible. Today, in 1937, aniline printing not only duplicates or compares favorably with many other better known and more expensive types of reproduction but actually produces some beautiful and unusual effects which cannot be obtained in any other way.

The advent of transparent wrapping materials, for example, disclosed the fact that oil inks were not well suited to this type of stock, while aniline (and rotogravure) inks were. Much of the high grade printing of cellophane, and similar products, is now done by either the aniline or rotogravure method.

Aniline printing is widely used in the production of the following: bread wraps, confectionery wraps, paper bags, paper milk containers, cellophane bags and wraps, foil bags and wraps, bottle wraps and gummed tape.

The Press

Simplicity is the keynote to the construction of the aniline press. A two-color rotary machine accommodating a web 30 inches wide will weigh less than 1,000 pounds and occupy only 10 or 12 square feet of floor space. Equipped with anti-friction bearings, it will run up to 700 feet per minute on 3 h.p. when the nature of the work permits. In fact, the characteristics of the ink suit high speed operation. A variable speed motor, driving the impression cylinder with silent chain, provides the most suitable power unit.

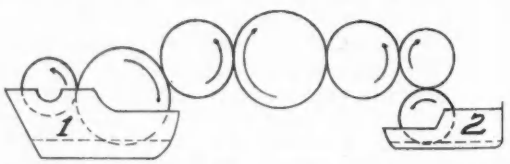
Ink Fountains

The entire fountain mechanism, including ink rollers, can be moved up to or away from the plate, without disturbing the setting of the two ink rollers. Each end of the fountain unit is independently adjustable. On modern presses, the plate cylinder can also be locked up with the inking unit, and backed away from the impression cylinder. Adjustment of the entire printing mechanism is done with hand wheels provided for the purpose. No tools are needed.

Ink Rollers

Aniline presses are built dissimilar to conventional machines in that distribution of ink is unnecessary. This is due to the liquid state and quick drying qualities of the ink. Maintenance of cams and many other moving parts is thus avoided, which contributes to low upkeep charges. One ink roll running partially submerged in the fountain, and one form roll transferring ink to the plate, are all that are required. The quantity of ink applied to the plate is controlled by the force of contact between these two rolls. Both should be made of rubber of No. 3 hardness. Some press manufacturers substitute brass for rubber in the fountain roll with satisfactory results. Originally the two ink rolls were always arranged with the form roll immediately above the fountain roll. It will be seen from the diagram that if the rolls in No. 1 fountain were thus arranged, the ink picked up by the lower roller would be thrown back from the point of roller contact, out of the fountain and onto the web. Because of the necessary proximity of fountain to web, the side of the fountain cannot be raised high enough to prevent this splashing.

When demands for increased speed disclosed the drawbacks of the vertical rollers, their positions were changed as indicated in the diagram of the No. 1 unit. Here the



large roller acts as both fountain and form roller, while the small one is used only to cut the film down to the proper amount. Surplus ink falls directly back into the fountain. The form roller must be of large enough diameter to reach from ink to plate, while the squeeze roll must be small enough to ride free above the surface of the ink supply.

After the paper has passed over the top of the impression cylinder and is traveling downward through the second color unit, the direction of travel of rollers is reversed and splashing presents no problem. The width of this pan can be extended back far enough to catch whatever surplus is squeezed off from between the rolls.

Pressure of rollers against each other and against the plate can be independently adjusted—in one plane, or at either end.

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* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

[1] Member TAPPI, General Superintendent, Thomas M. Royal & Co., Philadelphia, Pa.

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Plate Cylinders

There is no requirement for slots, grooves, gutters, or other mechanical means of fastening plates to cylinders. They can be made of steel tubing and fastened to the shaft with set screws at each end. The flexibility of the fountain unit, and the relatively low cost of plate cylinders, make it possible to provide cylinders of different diameter for every printing length within the limits of the press. The range is large—even on small presses, lengths from 5 to 25 inches can be obtained. For very short sizes, a plate cylinder shaft of small diameter is obviously essential and, as these small shafts will not support extremely large cylinders without danger of springing, a shaft of increased diameter must be used with the larger cylinders. These shafts are readily interchangeable.

Plates are usually fastened to cylinders by means of an adhesive sheet backing. It is sometimes desirable to use plates with stiff paper backing, in which case the tails of the backing may be held by locking bars screwed into slotted cylinders.

The setting of plate cylinder can be effected in a manner similar to the adjustment of the rest of the printing mechanism, as described above. It can be set independently, at one or both ends, and locked to the fountain so that ink roller setting need not be disturbed if for any reason it is desirable to back the color unit away from the web.

Impression Cylinders

These are very similar to plate cylinders and are also made of steel tubing. On a two color press, the impression cylinder need never exceed 6 inches in diameter. The soft nature of the plate provides all the cushioning that is required, and impression cylinders are therefore used without packing of any kind. If a very hard rubber or composition plate is used, rubber impression cylinders are perfectly practical.

Many four color presses are designed with the No. 2 and No. 3 fountains placed directly above the No. 1 and No. 4. In such cases a separate impression cylinder is provided for each unit of two colors. It would be quite feasible to add a third unit above these so that six colors could be printed. In this instance there would, of course, be three impression cylinders. This style of press building undoubtedly originated from the fact that until the scope of aniline printing was recently broadened, presses of more than two colors did not exist. It was a fairly cheap and simple procedure to duplicate the construction of the units which were already in use, and to add the necessary framework to hold the additional units. This type of equipment offers one particular advantage: The distance between the first and second, and between the third and fourth colors, facilitates drying of inks on overprinting jobs. The greatest disadvantage lies in the difficulty of holding close register between the upper and lower units. In late years, this has been overcome by building four color presses with only one large impression cylinder. From an engineering standpoint, these presses are superior because of their compactness and general stability.

Auxiliary Equipment

Special apparatus designed to meet new requirements which have come up within the past five years has, in turn, materially widened the field of application of aniline printing. Those of chief interest are listed below:

Rewind, Slitter, Sheeter

Aniline presses were at first used exclusively for printing in conjunction with some other operation. Recently, however, it has become desirable to run printed rolls for direct sale, or for subsequent treatments such as waxing, etc. A simple friction disc rewind answers this necessity, and, at the same time, furnishes an additional means of controlling register. In fact, the compactness of the press makes it possible to so arrange mill roll and rewound roll that both can be reached by one man, and the maintenance of uniform tension is thereby simplified.

Any press can be equipped with slitters, which make it possible to print rolls up to 72 inches in width, and wind them onto separate shafts.

Efficient sheeters are also available for presses on which circulars, pamphlets, and other work of general nature can be produced at the rate of 9000 sheets per hour. In conjunction with these machines, devices are obtainable which permit printing of both sides of the web in the same operation.

Drying Apparatus

The opaquing of inks and their use on surfaces which are not naturally receptive has made artificial drying equipment an important part of the aniline press. This is particularly true in overprinting. Drying of print may be accomplished by electricity, gas, air, steam, or by combinations of any of the four. Electric heaters are the cheapest and most convenient, but provide slow heat which may be deleterious to the stock which is being printed. Electricity is not suitable for drying between colors, because of the proximity of the ink fountains.

For final drying, gas is best. The supply should be routed through a mixer which will produce strong, well defined jets of blue flame. Lazy, wavering flames, such as are often used on flat bed presses to prevent static electricity, are not suitable for this purpose. Any web can be run directly over the top of the flame without undue danger, provided the apparatus is arranged to cut off the gas supply the instant the motor controller handle is pulled. The flame can be just as readily brought back when starting by means of an automatic sparking device. The actual contact of gas flames on ink fuses it into even the most stubborn surfaces, such as those encountered on moistureproof transparent cellulose. The heat is intense, but quick enough to preclude detrimental action to the stock.

Compressed air is the only satisfactory means of drying between colors. The air need not be heated, which makes this medium a fairly economical one. A moderate blast of air at 30 pounds pressure gives at least a surface set to the ink film. Air is also useful for cooling webs which have been previously heated by the application of gas or electricity, particularly when they are being rewound. It serves well as an ink drier on all types of waxed papers, which will not tolerate much heat.

Steam heated cylinders offer little that cannot be obtained from gas, air, or electricity, and are obviously expensive to install. Their absolute safety is their greatest recommendation.

The simple versatility of the aniline press makes it a useful piece of equipment to many manufacturers who employ converting processes other than printing. Within reasonable limits, the press may be used as a coating machine by substituting soft rubber rolls (No. 00) for plate cylinders. Many forms of resinous and other similar coatings can be successfully applied in this manner, usually in conjunction with printing, if desirable, e. g. gloss varnish can be applied directly on ink. By a similar method, the press can also be used for various jobs of combining narrow strips of webs, or for solid lamination. Presses may be run in synchronization with almost any sort of machinery by means of beveled gears, drive shaft and universal joint. These can be so arranged that

the press can be driven in either direction and from either side.

NEW DEVELOPMENTS

The latest construction in aniline presses comprises a machine built along the general lines of those described above, but with ink rollers running continuously. The fountain and rollers are movable as a unit, which can be backed away from the plate just before the press is shut down. The plate remains in place so that impression is not disturbed, and the continued revolving of the plate cylinder, after ink unit has been backed off, allows the entire film of ink to be transferred from plate to paper. This, of course, prevents ink from drying on the plate. When the plate is clean, the press is stopped. Ink rolls continue to rotate, eliminating the subsequent wash-ups of both plate and rolls, which are inevitable on the ordinary aniline press. Waste is reduced to the minimum, as a full coverage of ink is almost immediately deposited on the paper when fountain is moved into place and the web again begins to travel. The ink, having remained in an agitated state, is ready to use without stirring or other treatment. This feature makes the use of relatively heavy bodied inks feasible to the extent that even on ordinary low finish paper stocks, oil ink printing can be duplicated or bettered.

These modern presses also incorporate running register devices, suitable for both lateral and longitudinal correction.

Plates

Rubber is the only common substance which will carry aniline ink in a manner adaptable to the usual needs of aniline printers. Modified inks of comparatively high viscosity can be printed from stereos, electros, etc., but for general utility, aniline ink calls for rubber plates. A flexible plate fits in perfectly to the aniline printer's procedure, because the field where his product is largely consumed is one which demands web-printing with a great many different distances between impressions, from one job to another. These varying lengths are obtained by using plate cylinders of different diameters, which are interchangeable within wide limits on all standard aniline presses.

Rubber plates for printing were patented in the United States in 1853 (U. S. Patent 9548) but little used until the introduction of the Jean Berte Process in 1926, which gave some impetus to the idea. The first plates put to commercial use were rubber stamps. These filled the needs of the time for coarse printing, as of boxes, burlap bags, etc. The rubber stamp, however, was neither accurate nor uniform enough for fine work.

The intention of the manufacturers of rubber and rubber plates, of course, was to supply the general printing trade with cheap plates. Rubber will usually produce a more uniform, intense coverage with less ink, and fewer ink rolls, than metal. Nor does rubber effect the brilliance of inks, especially tints, as is often the case with certain metals. However, rubber has certain limitations as yet unsolved. Oils are absorbed by rubber, which causes it to swell. The swelling, no matter how slight, increases friction on the surface, generating heat which accelerates absorption of more oil, with subsequent decomposition of the plate.

Aniline printers, with inks entirely free from oils of any sort, were able to capitalize on all the advantages of rubber, with none of the serious disadvantages. The technology of rubber manufacture and vulcanizing procedure has now advanced to the extent that one million impressions may be obtained with aniline ink, even with considerable fine work in the design.

The demand for continuous or nearly continuous printing was responsible for the development of an adhesive sheet, sticky on both sides, which is now widely used as a means of mounting plates. This material, made by all large rubber companies, will hold plate to cylinder indefinitely, but may also be peeled from the cylinder without difficulty, which is extremely useful while the plate is being made ready.

In the past many special backings of sheet metal, wire screen, fabric and other semi-rigid materials were put to extensive trial. These were as often as not vulcanized into the plate to prevent distortion. For general usage, none has proved practical, as the same stiffness required to make distortion impossible, also made it difficult to achieve perfect flatness in the plate after it had been mounted on the cylinder, except when the rubber used was at least ¼ inch thick. On three and four color work involving fine detail, flexibility of plate is desirable, as minor discrepancies in register can be corrected by peeling the plate partially off the cylinder, "thumbing" the distorted rubber into position, and carefully sticking it back down on the cylinder.

On original work, or on adaptations of competitive reproduction, there are points to be considered in laying out which may be the means of avoiding subsequent difficulties on the press:

1. Thin, transparent inks may be used on opaque papers such as kraft, manila, and sulphite, except when it is necessary to hide the color or the texture of the paper.

2. As gloss depends largely on the finish of the paper being printed, this characteristic cannot be indicated on rough surfaced stocks. Gloss of ink can be improved by increased concentration of shellac, but this produces tacky inks which cause sticking between plate and paper.

3. It is possible to print fine detail, such as an 80 line screen, from transparent, or slightly opaqued inks. This fine work, however, should not be specified in the same plate with large solid areas demanding brilliant opaque colors. Fine detail is easier to handle in positive than in negative. It should be confined to the center of the design where possible, as the edges are more susceptible to wear. Thin lines should be laid out vertically rather than horizontally, but if the former is a requirement, a group of lines closely spaced is preferable to those widely separated.

4. Because of the variable shrinkage of rubber after molding, close register at extremities of plates is to be avoided.

5. Designs should not call for the same color to be both overprinted and overprinting.

Inks

Because of the wide commercial usage and the great chemical interest in aniline dye-stuffs they are classified in several different ways. These classifications are of only theoretical interest to the aniline ink maker. All of his are direct dyes and are available as salts, either acid or basic in form. The basic dyes are the more easily soluble, which is important enough to offset their slight inferiority in fastness to light and tendency to bleed. Acid dyes must be used in greater quantities as they are not so intense as basic. Both types may be mixed to secure the advantages of each. In addition, base stearates and bisoluble dyes, (that is, soluble in water or alcohol), can often be used to advantage.

The base colors are the most economical for use in aniline inks. Unfortunately, they are not all light fast, or water fast.

Vehicles

Shellac is the most suitable of all resins for use as a

vehicle or binding agent in aniline ink, because it has a higher degree of combined hardness and elasticity than any other spirit-soluble resin. Orange shellac is suitable for all true (transparent) aniline inks. Pigmented inks, such as white, from which practically all opaque colors must be made, requires bleached white bone dry shellac.

Substitutes for shellac include gum copal, vinylite, glyptal, ester gum, manila gum and manila pontianak. Any of these, in combination with organic pigments, will produce gloss and lessen tendency to bleed on high finish papers. Inks made from such vehicles are thick and therefore unsuited for relatively rough, absorbent surfaces.

Solvents

Solvents are needed to put both dye and vehicle in solution, and, having done their job, to disappear. The following classes of solvents are used with aniline inks: 1. Hydroxyl Compounds, 2. Ethers, 3. Ketones, 4. Ketone-alcohol, 5. Acids, 6. Esters (of organic acids), 7. Esters (of hydroxyl acids), 8. Ether-alcohols, 9. Acid amides and 10. Misc. Solvents.

Solvents must often be mixed to secure a combination of characteristics, or to keep solvent costs down. Of the entire list, only methanol, ethanol, and methyl cellosolve are outstandingly good dye solvents. Others are good solvents for some dyes, fair for some, and poor for others. The solvent power of the alcohols diminishes as the molecular weight increases; the simple solvents are therefore preferable for making dye solutions. It is to achieve modification of physical properties of finished inks that a variety of solvents becomes useful. For example, drying rates can be increased by the addition of high boiling solvents to the solvent thinner which must be put in the fountain during the course of a run to replace what has evaporated. Generally speaking, the solvent thinner should be formulated along lines similar to those following in the makeup of the original batch of ink.

Pigments

The advent of Cellophane and other transparent wrapping materials brought about radical changes in the making of aniline inks (as it did in the case of other inks), for the ink itself was transparent. The prime need for opacity kept the pigment problem a fairly simple one. It is well known that titanium dioxide has at once the greatest hiding power and tinting strength of all the opaque white pigments; it, therefore, serves best as an opaquing agent for all aniline inks, regardless of color. White aniline ink, made from titanium, may be added to colored aniline ink to opaque it. The colored dye concentration is simply strengthened to preserve the desired shade. With one or two exceptions, colored pigments, because of their cost and inferior opacity, are not as efficient as the white base. However, when a very intense red is required, red for lake C, or variations of this pigment, can be used to advantage.

Commercial ink manufacturers often prepare aniline in concentrated form, which is later thinned to suit the requirements of the use made of it. In these concentrates, solvents such as carbitol and diacetone alcohol are used, because of their high rates of dye solubility. These inks cost about three times as much as those prepared to be used immediately without dilution. Another type of manufactured ink now available incorporates dye, vehicle, fixative and dispersing agent. These inks are satisfactory on highly finished surfaces, such as glassine, but may be troublesome on sulphite, kraft, and manila papers.

Preparation of Inks

Although binders are now being eliminated by certain manufacturers of aniline ink, the common formula for simple inks up to recent times was:

Dye	8 oz.
Alcohol	800 cc.
4 pounds orange shellac	800 cc.

These proportions may be varied within fairly wide limits to provide an ink which will be most adaptable to requirements.

It is rarely necessary to use heat to complete the solution of dye. When this is done, however, the solvent-dye mixture should just be brought to a boil, and then cooled preparatory to adding shellac. The quantity of opaque white required to obtain proper density may weaken the color, in which case, intensity can be maintained by further additions of dye. It is well, however, to keep dye concentrations as low as possible, as those approaching saturated solutions will be unstable in use.

White Ink

White ink can of course be used as a printing color, but is employed more frequently as a means of making all other colors opaque. It is more troublesome to make than other inks, as it must be passed through a colloid mill, or ground in oil on standard ink mills.

Any of these inks may be blended by simply stirring them together for one minute, so that an almost endless list of shades may be compounded.

Special Formulae

To suit particular specifications, many complex inks, such as gold and silver, may be formulated, although the complexities arise chiefly in the handling rather than in the manufacturing of such inks.

Patents Committee Progress Report 1936-37*

The Patents Committee of the Technical Association of the Pulp and Paper Industry has been working on the following subjects:

1. Recent patent decisions of interest to workers in the pulp and paper industry.
2. The influences that retard or accelerate invention.
3. Patent agreements.
4. Amicable settlement of patent disputes.
5. Keeping invention and research records.
6. Advisability of obtaining foreign patents.
7. Recent changes in Patent Office practice and procedure.
8. Shop rights.
9. Synopsis of important patent decisions since 1930 relating to the pulp and paper industry.
10. International convention for the protection of industrial property.

A considerable amount of material has been gathered on each of the foregoing subjects, and the committee expects to issue a number of bulletins throughout the year.

At the Summer International Meeting the Committee sponsored a paper entitled: "What Constitutes Validity of a Patent?" This paper summarized all the important patent decisions relating to the pulp and paper industry within the last ten years.

C. W. Rivise, *Chairman.*
TAPPI Patents Committee

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Sulphate Process

Tanning Material from Sulphite Waste Liquor. A. Carpmael, assignee of I. C. Farbenindustrie A. G. Brit. pat. 444,591 (Sept. 22, 1934).—The materials obtained by the comparatively mild condensation of an aromatic hydroxy-compound and sulphur and (or) a sulphur-halogen compound are mixed (with heating if necessary) with sulphite waste liquor (3 to 6 parts calculated on the dry weight). Addition of nuclei-linking reagents (formaldehyde, glyoxal, etc.) is also claimed; the leathers obtained by using aqueous solutions or dispersions of these tanning agents are soft and pliable.—A.P.-C.

Separation of Sulphurous Acid from Sulphite Waste Liquor. Karl F. H. Heinemann, assignor to American Lurgi Corp. Can. pat. 359,053 (July 14, 1936).—Sulphite waste liquor is introduced into a vessel and splashed from a ring to a plate repeatedly to separate sulphur-dioxide-containing gases. The liberated gases are withdrawn through an outlet in the upper part of the vessel and the liquor through a U-shaped pipe at the bottom of the vessel. —A.P.-C.

Sulphite Process

Two-Stage Cooking of Straw Pulp. P. S. Larin. Tzentral. Nauch.-Issledovatel Inst. Bumazhnaoi Prom. Materialui 1935, nos. 3-4:11-44; C. A. 30:7328.—The laboratory method of two-stage pulping of shredded straw was successfully applied to a commercial scale operation. The efficiency of pulping as compared with a single-stage process with the repeated use of recovered liquor was increased 2.5-3 times, giving a high grade, long-fibered unbleached stock of very light color. The product is easily bleached with consumption of 2.5-3 per cent of chlorine, resulting in a pulp of high whiteness, practically free from chaff and impurities. A yield of 46.5 per cent pulp resulted by cooking for periods of 0.75 to 1.3 hours. The procedure causes but little destruction of the cellulose, giving spent liquors of high concentration which requires small amounts of steam for evaporation. Contrary to Rozenberger the consumption of steam in steeping and cooking only slightly exceeds that of single-stage pulping, and will be considerably less with the use of liquor circulation. A considerable saving in active alkali is another advantage. The efficiency of the two-stage pulping of straw can be further improved by the continuous steeping of straw (first stage). This results in a complete mechanization and elimination of time lost between the two operations. —C.J.W.

Paper Pulp from Cereal Straws by a Modified Sulphate Process. Baker Wingfield, E. R. Whittemore, C. B. Overman, O. R. Sweeney, and S. F. Acree. Paper Trade J. 103; No. 15:31-35 (Oct. 8, 1936).—A strong bleached pulp can be produced from straw by using a modified sulphate process. Yields of 38 to 43 per cent of strong bleached pulp from wheat straw, 42 to 46 per cent from rye straw, and 40 to 45 per cent from oat straw, were obtained. Various grades of pulp can be produced by changing the amounts of the chemicals in the digestion process. Yields of 45 to 55 per cent of unbleached pulps can be obtained.—A.P.-C.

Cellulose Pulp from Phormium (New Zealand Flax). J. S. Yeates. New Zealand Dept. Sci. Ind. Res. 8th Ann. Rept., 17-18 (1934).—Green flax (containing 65 per cent moisture) digested with 4 to 5 per cent of caustic soda and 0.08 to 0.5 per cent of sodium sulphite yields 14.8 per cent of bleached pulp. Consumption of calcium hypochlorite is high if sodium sulphite is omitted. Scutched fiber yields not more than 60 per cent of good-quality pulp.—A.P.-C.

Tall Oil. I. Historical Development of the Tall Oil Industry. Ralph H. McKee and Helmer L. Blengsli. Paper Trade J. 103, No. 12, 34-35 (Sept. 17, 1936).—A brief historical survey of the development of the knowledge of the composition of tall oil, with an indication of the possibility of developing the industry.—A.P.-C.

Tall Oil. II. A New Method of Refining Tall Oil. Ralph H. McKee and Helmer L. Blengsli. Paper Trade J. 103, No. 14, 33-34 (Oct. 1, 1936).—The objectionable colored and odorous constituents of crude tall oil can be removed by dissolving in gasoline, filtering, treating with activated charcoal, fullers earth or furfural, and finally evaporating the solvent. The colored gasoline-insoluble constituents are oxidation products of the rosen in the tall oil. By oxidation of the crude sulphate soap or of the crude tall oil, the rosin acid content of the refined tall oil can be considerably reduced.—A.P.-C.

Imported Sulphate Pulp for the Production of Cable and Telephone Papers. A. G. Laube. Tzentral. Nauch.-Issledovatel. Inst. Bumazhnoi Prom, Materialui 1935, nos. 3-4:77-90; C. A. 30:7335.—This is a discussion of the relative qualities of foreign sulphate pulps for the production of insulating cable and telephone papers, based on comparative tests of the electrical, chemical, mechanical and thermal properties of the products.—C. J. W.

Bleaching

Bleaching of Viscose Pulp in the Syaskii Combine. N. I. Nikitin, F. Komarov and I. A. Nagrodskii. Bumazhnaya Prom. 15, no. 4:33-41 (1936); C. A. 30:7327.—A critical discussion of the laboratory control and operation of the bleaching process of viscose pulp, with various suggestions for improvements. In the two-stage process, the best results were obtained with the tower bleaching at 17-20° and 18-20 per cent calcium hypochlorite. Viscose pulp of satisfactory chemical and physical properties was obtained from pulp with a viscosity of 200-260 millipoises, containing 1-7-2.2 per cent lignin (hardness 17-22). The concentration of bleaching liquor should be determined not by gravity but by titration, and should be fed into the rolls in two stages with the intermediate determination of the bleaching stage.—C.J.W.

Bleaching Paper. Laboratorie Egé and Gabriel P. Filliatt. Fr. pat. 797,823 (May 5, 1936).—The material is impregnated in a continuous manner with a liquor containing a compound capable of liberating nascent oxygen (potassium permanganate), then with a second liquor containing a reducing agent (sodium bisulphite). An apparatus is described.—A.P.-C.

Cellulose Freed In New Way

A new process for extracting cellulose from trees, plants and other p roducts of the soil was demonstrated for the first time last Saturday at the laboratory of the Island Lumber Company, 43-41 Thirty-second Place, Long Island City.

The new process separates in one major step the solid cellulose component of the products of field, forest and farm from its liquid and non-cellulose components, whereas at present the separation of the cellulose from the non-cellulose parts requires a number of processes, mechanical as well as chemical, which considerably increase the cost of the ultimate product.

The process is the invention of Matthew J. Stacom, a self-taught engineer and president of the Island Lumber Company, who spent many years in the study of how to improve present methods for extracting the great wealth from plant substances, a great deal of which is now going to waste.

He has finally developed machinery, designed on relatively simple principles, which is capable of producing pressures from 100,000 to 145,000 pounds per linear inch, pressures so tremendous that their attainment on a commercial practical scale so far has been considered an unrealizable dream.

Swedish Pulp and Paper Improvement

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 31, 1937—The paper pulp market in Sweden is benefiting substantially from increasing world consumption, American Trade Commissioner Charles E. Brookhard, Stockholm, has just reported to the Department of Commerce.

A report just made public in Sweden shows that the demand for sulphite pulp has been so great that the total export quantity fixed by the Sulphite Pulp Suppliers agreement has twice been increased until it now amounts to 2,600,000 tons, of which 1,116,000 tons are allotted to Sweden.

Sulphite pulp has shown further substantial improvement over 1935 and more than 800,000 tons were exported during the year. A total of 313,000 tons of mechanical pulp have also been exported, it was stated.

The production and export agreements have had a stabilizing effect on the paper market, the report states.

International Wine Safety Award

DAYTON, Ohio, March 29, 1937—A noteworthy session of safety leaders was held the past week at Wright Field under the auspices of the Dayton Chamber of Commerce. T. Alfred Fleming, New York, was one of the leading speakers. Another was Claude Bowden, Youngstown, Ohio.

Several hundred men representing mills and factories of all types were in attendance. A dinner preceded the discussion session. The affair was known as an "Industrial Safety School."

Announcement was made that the International Envelope Corporation, of Dayton, which has the contract for supplying stamped envelopes and newspaper wrappers for the Government, to be distributed to Post Offices throughout the country, had won the six-months' safety contest of the school.

The corporation had a record of 546 employees, working 481,479 hours without an accident.

Is Merchants Payroll Vulnerable?

F. Bendel Tracy, president of the National Paper Trade Association, has forwarded an announcement to the members of the organization, which follows:

"Now is a good time to make an analysis of your payroll to ascertain if the wages paid and the hours worked in your establishment compare favorably with conditions in other trades and industries.

"Generally speaking, employment in our trade is year round, and year in and year out, with loyal workers receiving a salary or wage which includes pay for holidays, vacations, ordinary incapacities and in many localities a five day week.

"By taking your actual hours of work and dividing them into the annual amount received, you will see the high hourly wage you are now paying. For example, a $30 a week steady worker receives over 85 cents per hour, a $20 worked nearly 60 cents per hour. This wage is generally performed in ideal surroundings and the per hour wage does not include any bonuses or extras. How does this wage compare with the hourly wage paid in industry n your loicality?

"Having in mind that there is considerable wage agitation going on today, it may be well to remind employees of the rate they receive per hour, and in receiving this amount there is no deduction taken from their wages in order to enable them to receive that wage. Our trade is glad to be able to do its part in maintaining the American system of fair wages and decent working conditions for our employees.

"The members of the Paper Distributing Trade have advocated maximum wages and minimum hours of labor over a long period of time and during the NRA very slight adjustments were necessary even from the depression levels prevailing before NRA to conform our salary and wage schedule to the labor requirements of the code."

Iowa Paper Merchants Elect

The Iowa Paper Merchants Association held their annual meeting in Cedar Rapids on March 25. The meeting was well attended and was noteworthy for its fine spirti of cooperation and progress. Favorable action was taken on a number of matters arising from the New York meeting of The National Paper Trade Association which were referred to the Iowa group.

On the report of the nominating committee, consisting of Charles Pierce, R. R. Epler and G. W. Noth, the following new officers were elected for the ensuing year: President, A. D. Riley; vice-president, G. H. Thode; secretary, R. B. Wixson; and treasurer, R. H. Jacobs.

American Wringer Strike Settled

The American Wringer Company of Woonsocket, R. I., that the labor difficulty at their factory has been settled and the men are back at work.

They regret the delay caused by conditions beyond their control and are now pushing p roduction to the maximum in an endeavor to fill their orders for Tensilastic Rubber Rolls.

T. S. Gates Elected Scott Director

Thomas S. Gates, Jr., of Drexel & Co., has been elected a director of Scott Paper Company, to fill the vacancy left by the resignation of William W. Tomlinson.

New De-Inking Plant at Cleveland

E. H. Silberman, president of the Silco Pulp Products Company, 1836 Euclid Avenue, Cleveland, Ohio, announces the opening of their demonstrating de-inking plant which is located in Pittsburgh, Pa.

This plant is operated in accordance with the inventions of F. W. Hochstetter, well-known inventor and applied science engineer. Mr. Hochstetter has devoted considerable time to this problem and has made a complete study of both prior patented art and all available literature on this subject and he has introduced a number of new ideas.

Under their process the company de-inks all grades of waste paper including colored ledger, book, old newspaper, wax paper, parchment paper, blue print paper, lithograph paper and all other grades at a very low cost.

It is believed that the troubles encountered in prior efforts to de-ink waste paper effectively have been entirely overcome in this new plant. Basic patents are pending in connection with Mr. Hochstetter's developments.

Under their plan of operation the company will license a limited number of mills throughout the various sections of the country on a license agreement.

B. C. Pulp & Paper Profits Up

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., March 29, 1937—Encouraging reports covering operations of the British Columbia Pulp and Paper Company for the 1936 season were recently presented by Lawrence Killam, company president. Mr. Killam's report showed, primarily, a net profit of $15,213 where a deficit of $256,738 had appeared at the end of 1935. Itemized, the report revealed operating profits and other income, $619,333 during 1936 compared with $307,854 in 1935; bond interest absorbed $319,717, depreciation $238,000 and income tax $12,000. The deficit carried forward was placed at $1,073,163, a reduction from the previous year's figure of $1,088,377. Current assets for the period were placed at $1,048,812, with current liabilities totalling $253,942, and net working capital $794,870, a decrease of $35,312 from December 31, 1935. The report also showed that $118,000 of 6 per cent first mortgage gold bonds have been retired through the company's sinking fund.

Albany Felt to Erect Ne wBuilding

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., March 29, 1937—The Albany Felt Company has announced plans for the construction of a new three-story brick addition to its North Broadway mill which will provide 80,000 square feet of space. Employment will be increased considerably when the new addition is placed in operation. The contract has been awarded to the Sheehan Contracting Company which started work this week on the foundation. The new annex will be 300 feet long by 90 feet wide, on the east side of the present building, and will enlarge the plant about one-third. Expansion of the company is reported due to a steady growth of business over a period of several years.

Escanaba Raises Newsprint Price

M. N. Smith, president of Escanaba Paper Company, of Escanaba, Mich., announces that while their production of newsprint has been declining, they are still in the market for a limited tonnage.

On account of increasing costs of manufacture, their price for the first six months of 1938 will be at least $50.00 per ton, Chicago basis.

Rochester Paper Co. Changes

The New York office of the Rochester Paper Company has been moved from 277 Broadway to 41 Park Row. The telephone number at the new address is Cortlandt 7-0857. Fred W. Beetson continues in charge of the New York Division.

Complete stocks of Rochester's lines of blottings are continued to be carried in this company's warehouse at 96 Sullivan street.

Rochester Paper Company has also opened a new sales office in Chicago at 205 West Wacker Drive in order to effect better service in this market.

Albert R. Fortune, assistant sales manager of Rochester, will make his headquarters at this office and will be in charge of sales in Chicago and through the entire middle-western area from Pittsburgh to Omaha. The telephone number of this new office is State 9509.

Paper Association to Celebrate

The Paper Association of New York City will celebrate this year the thirty-fifth anniversary of the granting of its charter. To commemorate this noteworthy occasion, the committee in charge has planned a formal dinner and entertainment for the members and their guests of the paper industry, to be held on April 20, at the Waldorf-Astoria, New York.

The committee, under the chairmanship of P. W. Eason, consists of the following: H. W. Doremus, Bertram E. Linde, J. C. Mallalieu, Jr., Oswald F. Marquardt, William E. Madden, A. G. Nelson, A. W. Pohlman, Jacob Sincoff, George W. T. Skinner, Fred Schlosser, Elwin Walker and D. J. Werner.

This will be a gala event and reservations should be made promptly.

Southern Pulp From Savannah

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., March 29, 1937—The first shipment of Southern pulp from Savannah, Ga., reached the local port terminal late last week. The pulp comes from the newly built mill of the Union Bag and Paper Company and will go to the bag plant of the concern at Hudson Falls. Formerly pulp has reached this city from Canada, Norway, Sweden and the Pacific Northwest. Production of Southern pulp from slash pine is regarded as a new development. The cargo reaching here last week amounted to several thousand tons.

Norton Paper Increases Wages

NEW LONDON, Conn., March 29, 1937—Announcement has been made by the C. H. Norton Paper Company, at North Westchester, that a wage increase of five cents per hour will be granted all its employees effective April 1. The wage increase will affect about 35 employees.

The mill has been operating day and night on a three-shift basis for some time and only a few weeks ago considerable new machinery was installed to keep pace with the incoming flow of orders.

Shartle Bros. Plant Addition

Shartle Brothers, Clark street, Middletown, Ohio, manufacturers of pulp and paper mill machinery, have awarded general contract to the F. K. Vaughn Building Company, First National Bank Building, Hamilton, Ohio, for new addition to plant. It will be one-story, estimated to cost close to $50,000, and will be equipped primarily as a machine shop for expansion in that department.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 27, 1937

CIGARETTE PAPER

American Tobacco Co., *Ausonia,* Southampton, 525 cs.; H. H. Strauss, *Ausonia,* Southampton, 35 cs.; Champagne Paper Corp., *Ausonia,* Southampton, 409 cs.; Champagne Paper Corp., *Paris,* Havre, 1,119 cs.; De Mauduit Paper Corp., *Paris,* Havre, 2 cs.; A. H. White, *Paris,* Havre, 2 cs.

WALL PAPER

———, *Ausonia,* London, 8 cs., 1 ble.; F. J. Emmerich, *Scythia,* Liverpool, 6 bls.; ———, *Azumasan Maru,* Yokohama, 8 cs.; ———, *Hansa,* Hamburg, 1 cs.; F. J. Emmerich, *Hansa,* Hamburg, 20 bls.

WALL BOARD

Treetex Corp., *Black Hawk,* Rotterdam, 566 bdls.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader,* London, 3 cs., 2 bls.

NEWSPRINT

N. Y. Evening Journal, *Blankaholm,* Hango, 632 rolls; Walker, Goulard, Plehn Co., *Blankaholm,* Hango, 135 bls.; Lunham & Reeve, Inc., *Blankaholm,* Hango, 189 rolls; Jay Madden Corp., *Grete Maersk,* Hamburg, 875 rolls; Perkins Goodwin & Co., *Grete Maersk,* Hamburg, 622 rolls; Perkins Goodwin & Co., *Hansa,* Hamburg, 282 rolls.

PRINTING PAPER

Japan Paper Co., *Ausonia,* Southampton, 1 cs.; S. H. Pomerance, *Ausonia,* London, 9 cs.; Oxford University Press, *Scythia,* Liverpool, 17 cs.; ———, *Grete Maersk,* Hamburg, 62 rolls, 49 bls.; The Morilla Co., *Gerolstein,* Antwerp, 7 cs.; E. Dietzgen & Co., *Hansa,* Hamburg, 51 cs.; Steiner Paper Corp., *Hansa,* Hamburg, 10 cs.

WRAPPING PAPER

Yardley & Co., *Ausonia,* London, 2 cs.; ———, *Grete Maersk,* Hamburg, 2,751 rolls; Jay Madden Corp., *Grete Maersk,* Hamburg, 544 rolls; M. M. Cohen, *Grete Maersk,* Hamburg, 222 rolls, 70 bls.; White Lamb Findlay, Inc., *American Traveler,* Belfast, 2 cs.; Hess Bros., Inc., *American Traveler,* Belfast, 4 cs.; F. C. Strype, *Gerolstein,* Antwerp, 16 cs., 4 rolls; Steiner Paper Corp., *Hansa,* Hamburg, 44 cs.; Heemsoth Kerner Corp., *Hansa,* Hamburg, 90 bls.

DRAWING PAPER

H. Reeve Angel & Co. Inc., *Ausonia,* London, 3 cs.; George Haas, *American Trader,* London, 5 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., *Ausonia,* London, 5 cs.; C. Schleicher & Schull Co. Inc., *Hansa,* Hamburg, 9 cs.

FILTER COMPOUND

H. Reifenberg, *Hansa,* Hamburg, 40 cs., 20 bls.

FILTER MASSE

A. W. Fenton, Inc., *Hansa,* Hamburg, 50 bls.

METAL COATED PAPER

K. Pauli Co., *Hansa,* Hamburg, 25 cs.

COATED PAPER

W. J. Byrnes, *Queen Mary,* Southampton, 2 cs.

COLORED PAPER

International F'd'g. Co., *Hansa,* Hamburg, 22 cs.

PHOTO PAPER

J. J. Gavin, *Queen Mary,* Southampton, 8 cs.; American Express Co., *Hansa,* Hamburg, 5 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *American Traveler,* Liverpool, 23 cs. (duplex); B. F. Drakenfeld & Co., *American Traveler,* Liverpool, 2 cs.

DECALCOMANIAS

L. A. Consmiller, *Hansa,* Hamburg, 9 cs.; Sellers Transportation Co., *Hansa,* Hamburg, 22 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., *American Traveler,* Liverpool, 2 cs.

TRANSFER PICTURES

Rohner Gehrig & Co., *Hansa,* Hamburg, 3 cs.

TRANSPARENT PAPER

M. J. Corbett & Co., Veendam, Rotterdam, 5 cs.

CARBON PAPER

Morganite Brush Co. Inc., *Ausonia,* Southampton, 14 casks.

BOWL PAPER

Hurley Johnson Corp., *Scythia,* Liverpool, 11 bls.

PAPER TUBES

———, *Hansa,* Hamburg, 146 pkgs.

STRAW BOARD

A. Vuyk, *Black Hawk,* Rotterdam, 64 rolls.

MISCELLANEOUS PAPER

T. N. Fairbanks Co., *Exeter,* Genoa, 4 cs.; Keller Dorian Paper Co., *Exeter,* Marseilles, 9 cs.; Jay Madden Corp., *Sagoporack,* Hango, 34 bbls.; ———, *Tyrifjord,* Oslo, 156 bls.; ———, *Paris,* Havre, 9 cs.; Moller Products Corp., *Azumasan Maru,* Yokohama, 23 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co. Inc., *Exilona,* ———, 162 bls. rags, 21 bls. bagging; W. Steck & Co., *Exilona,* Alexandria, 82 bls. rags; Castle & Overton, Inc., *Exilona,* Alexandria, 111 bls. rags, 64 bls. bagging; ———, *Exilona,* Alexandria, 226 bls. rags; Darmstadt Scott & Courtney, *Alssund,* Gdynia, 143 bls. rags; ———, *Narutu Maru,* Shanghai, 100 bls. picker waste; ———, *Narutu Maru,* Shanghai, 50 bls. cotton waste; ———, *Narutu Maru,* Kobe, 142 bls. rags; ———, *Exeter,* Alexandria, 74 bls. rags; W. Steck & Co., *Exeter,* Alexandria, 40 bls. rags; R. Blank, *Exeter,* Alexandria, 148 bls. rags; Hicks Costarino Co. Inc., *Exeter,* Alexandria, 98 bls. rags; Irving Trust Co., *Exeter,* Alexandria, 64 bls. bagging; Philadelphia National Bank, *Black Hawk,* Antwerp, 46 bls. rags; J. Eisenberg Co. Inc., *Black Hawk,* Antwerp, 10 bls. rags; Irving Trust Co., *Black Hawk,*

Antwerp, 199 bls. bagging; D. Benedetto, Inc., *Black Hawk,* Rotterdam, 189 bls. rags; R. & V. Miller, *Black Hawk,* Rotterdam, 15 bls. rags; E. J. Keller Co. Inc., *Black Hawk,* ———, 133 bls. bagging; Irving Trust Co., *Ausonia,* London, 58 bls. rags; ———, *Ausonia,* London, 92 bls. rags; Loumar Textile By Products Co., *Veendam,* Rotterdam, 63 bls. bagging; ——— *Veendam,* Rotterdam, 6 bls. rags; Great Eastern Packing & Paperstock Corp., *Veendam,* Rotterdam, 106 bls. bagging; Chase National Bank, *Scythia,* Liverpool, 46 bls. dark cottons; E. J. Keller Co. Inc., *Lucia C.,* ———, 100 bls. paper stock; ———, *Lucia C.,* Trieste, 162 bls. rags; Philadelphia National Bank, *Lucia C.,* Trieste, 69 bls. rags; S. Shapiro & Son, *Grete Maersk,* Hamburg, 352 bls. rags, 176 bls. paper stock; Continental Bank Trust Co., *Grete Maersk,* Hamburg, 170 bls. bagging; ———, *Grete Maersk,* Hamburg, 162 bls. rags, 250 bls. cotton waste; E. J. Keller Co. Inc., *Black Osprey,* ———, 190 bls. bagging, 567 bls. rags; Irving Trust Co., *Black Osprey,* Rotterdam, 121 bls. bagging; Hicks Costarino Co. Inc., *Black Osprey,* Rotterdam, 34 bls. rags; Lang Mills, *Black Osprey,* Rotterdam, 212 bls. rags; Bank of N. Y. Trust Co., *Giulia,* Trieste, 122 bls. rags, E. J. Keller Co. Inc., *Giulia,* ———, 271 bls. paper stock; Castle & Overton, Inc., *Silverfir,* Bombay, 40 bls. new cuttings, 125 bls. rags; ———, *Silverfir,* Bombay, 100 bls. cotton waste; Mitsui & Co. Ltd., *Azumasan Maru,* Yokohama, 205 bls. rags; ———, *American Traveler,* Manchester, 237 bls. cotton waste; ———, *American Traveler,* Manchester, 49 bls. paper stock; Chase National Bank, *American Traveler,* Manchester, 376 bls. bagging; Leigh Textile Co., *American Traveler,* Manchester, 45 bls. cotton waste; Royal Manufacturing Co., *American Traveler,* 50 bls. cotton waste; E. Butterworth & Co. Inc., *American Traveler,* Manchester, 85 bls. rags, 52 bls. twines, 78 bls. bagging; J. Cohen Son & Co. Inc., *American Traveler,* Belfast, 10 bls. flax waste; M. Snedeker Corp., *American Traveler,* Belfast, 90 bls. paper stock; Chase National Bank, *Gerolstein,* Antwerp, 251 bls. jute waste, 101 bls. cuttings; E. J. Keller Co. Inc., *Gerolstein,* ———, 102 bls. bagging; ———, *Gerolstein,* Antwerp, 181 bls. rags, 103 bls. cotton waste; Manufacturers Trust Co., *Hansa,* Hamburg, 147 bls. rags.

GLUE STOCK

American Express Co., *Scythia,* Liverpool, 572 bags hide cuttings; National Adhesives Co., *Grete Maersk,* Hamburg, 120 bags ground glue; ———, *Grete Maersk,* Hamburg, 300 bags bone glue; ———, *Saturnia,* Trieste, 700 bags bone glue; ———, *Saturnia,* Trieste, 300 bags hide glue.

OLD ROPE

F. Stern, *Black Hawk,* Antwerp, 49 bls.; Banco Coml. Italiane Trust Co., *Black Hawk,* Rotterdam, 49 bls., 57 coils; Banco Coml. Italiane Trust Co., *Ausonia,* London, 183 coils; Banco Coml. Italiane Trust Co., *Veendam,* Rotterdam, 62 coils; Banco Coml. Italiane Trust Co., *Paris,* Havre, 95 coils; E. Butterworth & Co. Inc., *American Traveler,* Manchester, 60 coils; E. J. Keller Co. Inc., *Lucia C.,* ———, 50 coils; E. J. Keller Co. Inc., *American Traveler,* 42 coils.

CASEIN

———, *Paris,* Havre, 290 bags.

CHINA CLAY

———, *Ausonia,* London, 80 casks.

WOOD PULP BOARDS

Jay Madden Corp., *Blankaholm,* Hango, 161 rolls; ———, *Blankaholm,* Hango, 527 rolls; Jay Madden Corp., *Sagoporack,* Hango, 262 rolls, 81 bls.; Jay Madden Corp., *Grete Maersk,* Hamburg, 94 rolls, 213 bls.; Rohner Gehrig & Co., *Hansa,* Hamburg, 76 bls.

WOOD PULP

Gottesman & Co. Inc., *Exilona,* Constanza, 1,575 bls. wood pulp, 315 tons; Johaneson, Wales & Sparre, Inc., *Alssund,* Gdynia, 1,500 bls. wood pulp, 150 tons; Lagerloef Trading Co., *Blankaholm,* Hango, 450 bls. mechanical pulp; Lagerloef Trading Co., *Blankaholm,* Hango, 1,725 bls. sulphate, 900 bls. sulphite; Castle & Overton, Inc., *Blankaholm,* Hango, 1,972 bls. sulphite; Lagerloef Trading Co., *Sagoporack,* Hango, 2,565 bls. sulphite, 451 tons; Lagerloef Trading Co., *Sagoporack,* Hango, 500 bls. sulphate, 100 tons; Lagerloef Trading Co., *Sagoporack,* Hango, 250 bls. mechanical pulp, 52 tons; J. Andersen & Co., *Tyrifjord,* Oslo, 2,500 bls. sulphite; ———, *Grete Maersk,* Hamburg, 1,887 bls. wood pulp, 289 tons; Castle & Overton, Inc., *Grete Maersk,* 1,000 bls. wood pulp, 200 tons; Irving Trust Co., *Grete Maersk,* Hamburg, 450 bls. wood pulp, 76 tons; Absorbo Beer Pad Co., *Saturnia,* Trieste, 300 bls. wood pulp; ———, *Giulia,* Trieste, 1,689 bls. wood pulp; Bank of N. Y. Trust Co., *Hansa,* Hamburg, 545 bls. wood pulp, 109 tons; ———, *Hansa,* Hamburg, 416 bls. wood pulp, 56 tons; Gottesman & Co. Inc., *M. C. Holm,* Sweden, 750 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MARCH 27, 1937

O'Brien Padawer Co., *Silverfir,* Bombay, 200 bls. cotton waste; Gottesman & Co., Inc., *Stureholm,* Sweden, 4,600 bls. wood pulp; E. J. Keller Co. Inc., *American Traveler,* ———, 65 bls. bagging.

NEW LONDON IMPORTS

WEEK ENDING MARCH 27, 1937

Gottesman & Co. Inc., *Stureholm,* Sweden, 4,000 bls. wood pulp; Pagel Horton & Co. Inc., *Stureholm,* Sweden, 5,580 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 27, 1937

J. W. Hampton Jr. Co. Inc., *Sagoporack,* Hango, 469 rolls newsprint; Jay Madden Corp., *Sagoporack,* Hango, 156 rolls, 77 bls. newsprint; Lagerloef Trading Co., *Sagoporack,* Hango, 2,286 bls. sulphite, 449 tons; ——, *Algic,* Buenos Ayres, 250 bags casein; American British Chemical Supplies, *Algic,* Buenos Ayres, 417 bags casein D. Benedetto, Inc., *Black Osprey,* Antwerp, 58 bls. rags; D. Galloway, *Black Osprey,* Antwerp, 57 bls. cotton waste; J. M. Hagy Waste Works, *Black Osprey,* Antwerp, 25 bls. cotton waste; E. J. Keller Co. Inc., *Black Osprey,* 72 bls. rags; ———, *Giulia,* Trieste, 335 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING MARCH 27, 1937

Lagerloef Trading Co., *Sagoporack,* Hango, 890 rolls wood pulp boards; Lagerloef Trading Co., *Sagoporack,* Hango, 7,103 bls. sulphite, 1,345 tons; Castle & Overton, Inc., *Sagoporack,* Hango, 4,992 bls. sulphite, 998 tons.

BALTIMORE IMPORTS

WEEK ENDING MARCH 27, 1937

Guaranty Trust Co., Lucia C., *Trieste,* 1,080 bls. wood pulp; ———, *Lucia C.,* Trieste, 2,245 bls. wood pulp; Pagel Horton & Co. Inc., *Etna,* Sweden, 3,500 bls. wood pulp; Parsons & Whittemore, Inc., *City of Newport News,* ———, 920 bls. wood pulp; Parsons & Whittemore, Inc., *Rydboholm,* ———, 150 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING MARCH 27, 1937

———, *Lucia C.,* Trieste, 2,832 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING MARCH 27, 1937

———, *Alssund,* Gdynia, 1,050 bls. wood pulp.

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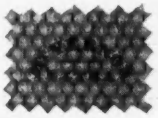

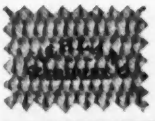

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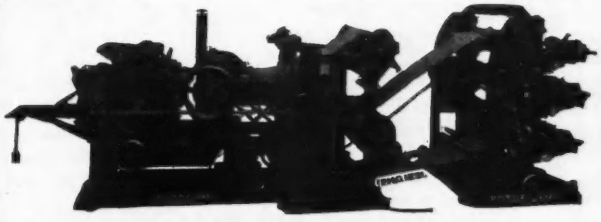

POTDEVIN

MODEL 102—HIGH SPEED

NOTION BAG MACHINE

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 31, 1937.

The local paper market continues to show signs of improvement. Demand for the various standard grades of paper is persistent. Offerings are still limited and some mills are having difficulties in filling orders for immediate delivery. Prices are generally steady to firm.

Conditions in the newsprint paper industry are more favorable than of late and numerous manufacturers have already followed the plan of the International Paper Company in advancing their quotations to $50 per ton, delivered New York, for the first six months of 1938. Current prices are steady.

The fine paper market is displaying strength. Demand for book, cover, bond and ledger papers is well sustained. Prices remain firm. Tissues continue to move freely into consumption. The coarse paper market is exhibiting a strong undertone. Paper board quotations are firmer.

Mechanical Pulp

Steadiness prevails in the ground wood pulp market. Manufacturing operations in North America and abroad are practically keyed to the current consumption, and the statistical position of the industry is considered sound. There are no undue accumulations at the pulp mills. Prices are strong.

Chemical Pulp

The chemical pulp market continues in an exceptionally strong position. Offerings of both domestic and imported grades are scarce and with demand from the paper mills brisk quotations rule firmer than for some years past. Contract shipments are going forward as regularly as possible.

Old Rope and Bagging

Business in the old rope market is holding up well. With offerings of old manila rope limited quotations are firmer. Small mixed rope is fairly active for the season. The bagging market is irregular. Gunny and scrap bagging are moderately active. Roofing bagging is in seasonal request.

Rags

The position of the domestic rag market is practically unchanged. Demand for new and old domestic rags is fairly active. No. 1 white shirt cuttings are in request for domestic and export account. Roofing grades are moving in good volume for the time of year. The imported rag market is little changed.

Waste Paper

Trading in the local paper stock market is generally well maintained. Board mill demand for the lower grades is active and prices of strictly folded news and No. 1 mixed paper are steady. Old kraft machine compressed bales are fairly buoyant. The higher grades of waste paper are strong.

Twine

The local twine market continues active. Demand for the various varieties is insistent and the contract movement is generally well up to average. Quotations on both hard and soft fiber twines are firm and the outlook for the industry is considered promising.

Link-Belt Elects Directors

At the annual meeting of stockholders of Link-Belt Company, held at the Stevens Hotel, Chicago, March 23, four directors were elected to serve until 1941.

The newly elected directors, Bernard E. Sunny, Chicago, and James S. Watson, Indianapolis, succeed Arthur L. Livermore, deceased, and Austin L. Adams, resigned. The re-elected directors are Staunton B. Peck, Chestnut Hill, Pa., and Harris Whittemore, Jr., Naugatuck, Conn.

Mr. Sunny is a director of a great many companies, among which are the General Electric Company, Illinois Bell Telephone Company, Public Service Company of Northern Illinois, Wilson & Co., Chicago Surface Lines, and the First National Bank, Chicago.

Mr. Watson is vice-president in charge of Indianapolis plant operations of Link-Belt Company, having served the company continuously for 44 years.

Hand-Made Paper Booklet

J. Barcham Green, of J. Barcham Green & Son, hand-made paper makers, of Hayle Mill, Maidstone, Kent, is the author of "Hand-Made Paper," a new book, profusely illustrated, on the Craft of Manufacturing Hand-Made Paper.

The book, which is printed on hand-made paper, is not for sale but Mr. Barcham has a few copies reserved and is willing to send one to anybody who is genuinely interested in the Craft.

Howard A. Casey Resigns

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 30, 1937—Howard A. Casey, of Springfield, formerly of Holyoke, has resigned as sales representative of the Collins Manufacturing Company, of North Wilbraham. He had formerly been with the Hampshirt Paper Company, of South Hadley Falls, which discontinued manufacturing two or three years ago and had also been with the Crocker-McElwain Company.

Correction to Instrumentation Studies. VII

In the "Comparative Study of the Bausch & Lomb Glossmeter and the Ingersoll Glarimeter" in PAPER TRADE JOURNAL 104, no. 2:45 (Jan. 14, 1937), it is stated at the top of page 46: "That the first two of these assumptions are correct will be shown in the following:" It is obvious to one familiar with the theory of these instruments that the word *correct* should read *incorrect*.

WOOD PULP
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Kraft Pulp
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MUNKSUNDS AKTIEBOLAG
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Hallein & Villach, Austria

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BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bratislava, Czecho-Slovakei
SVANÖ AKTIEBOLAG
Svanö, Sweden

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 31, 1937.

BLANC FIXE—The blanc fixe market is holding up well. Prices are generally maintained at formerly quoted levels. The pulp is selling at from $42.50 to $45 per ton, in bulk; while the powder is offered at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—No radical changes transpired in the bleaching powder market. The contract movement is well up to average. Prices are holding to schedule, in most instances. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market is more active. Domestic standard ground is now quoted at 17 and finely ground at 17½ cents per pound; while Argentine standard ground is selling at 18½ and finely ground at 19 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA—Paper mill demand for caustic soda is fairly persistent. The contract movement is normal. Prices remain steady. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and ground are selling at from $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market is displaying strength. Demand from the paper mills is insistent. Prices are firm. Imported china clay is quoted at from $15 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at works.

CHLORINE—Conditions in the chlorine market are practically unchanged. Supplies are moving into consumption freely for the time of year. Prices are holding to schedule. Chlorine is quoted at from $2.15 to $2.25 per 100 pounds, in tank cars, at works.

ROSIN—The rosin market is fairly active. Paper making gum rosin is quoted at $8 and wood rosin at $8.95 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $3.60 per 100 pounds, in tank cars, at works.

SALT CAKE—Demand for salt cake is well sustained. Prices remain steady. Salt cake is quoted at from $12 to $13; chrome salt cake at from $11 to $12 per ton, at works; while imported salt cake is selling at from $12 to $13 per ton, ship side.

SODA ASH—The soda ash market is little changed. Demand from the paper mills is brisk. Prices are holding to schedule. Quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH—Trading in the starch market is mostly along routine lines. The contract movement is normal. Prices are steady to firm. Special paper making starch is quoted at $4 per 100 pounds, in bags; and at $4.27 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA—Supplies of sulphate of alumina are moving into consumption in good volume. Prices continue steady. Commercial grades are quoted at from $1.35 to $1.60; while iron free is selling at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market continues steady. Yearly contracts are quoted at $18 per long ton, on orders of 1,000 tons, or over, and $20 on smaller quantities. On spot and near by car loads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC—During the past week demand for talc was moderately active. Prices are holding to formerly quoted levels. Domestic talc is selling at from $15 to $18 per ton, at eastern mines, while imported talc is offered at from $23 to $30 per ton, on dock.

Market Quotations

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.29	@	.30
75% Rag	.22	@	.23
65% Rag	.19	@	.20
50% Rag	.15½	@	.16½
25% Rag	.13	@	.14

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
No. 1 Sulphite	8.00	@	9.00
No. 2 Sulphite	7.00	@	8.00
No. 3 Sulphite	6.75	@	7.75
No. 4 Sulphite	6.50	@	7.50

Book, B Grade, Cased (f.o.b. mill less carload freight allowed)

S. & S. C.	6.00	@	—
S. & S. C. Litho.	6.25	@	—
M. F.	5.75	@	—
No. 4 Coated and Enamel	7.00	@	—
No. 4 Coated Litho	7.00	@	—

Tissues—Per Ream—

White No. 1	.95	@	—
White No. 1 M. G.	.92½	@	—
White No. 1½	.67½	@	—
White No. 2	.62½	@	—
Anti-arnish M. G.	.75	@	—
Colored	.87½	@	—
Kraft	.75	@	—
Manila	.62½	@	—
Unbleached Toilet	2.60	@	3.30
Bleached Toilet	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00

Fibre Papers—

No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—			
Roll, contract	42.50	@	—
Sheets	47.50	@	—
Kraft—			
No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	5.00	@	—
Glazed	4.50	@	—
Striped	4.75	@	—

Boards, per ton—

News	47.50	@50.00
Chip	45.00	@47.50
Sgl. Mla. Ll. Chip.	55.00	@60.00
Jute Lined Chip	55.00	@60.00
Kraft Liners	65.00	@67.50
White Pat. Coated	67.50	@70.00
Binders Boards	70.00	@75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—		
Moist	33.00	@35.00
Dry	33.00	@35.00
(Delivered)		
No. 1 Domestic and Canadian	33.00	@36.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	2.90	@	4.00
Prime Qualities—			
Easy-Bleaching Sulphite	3.25	@	3.75
Strong Unbleached Sulphite	3.25	@	3.50

(On Dock, Atlantic Ports)

Kraft Bleached	3.50	@	3.75
Kraft Light & Strong	2.35	@	3.25
Kraft No. 1	2.25	@	3.10
Kraft No. 2	2.25	@	2.50
(F.o.b. Pulp Mill)			
Kraft Domestic	2.50	@	2.85
(Delivered)			
Soda Bleached	2.90	@	—

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	9.00	@	9.25
Silesias No. 1	6.75	@	7.00
New Unbleached	9.25	@	9.50
Blue Overall	7.00	@	7.25
Fancy	3.50	@	3.75
Washables	2.25	@	2.50
Mixed Khaki Cuttings	3.50	@	3.75
O. D. Khaki Cuttings	4.25	@	4.50

Old Rags

White, No. 1—			
Repacked	3.50	@	3.75
Miscellaneous	3.00	@	3.25
White, No. 2—			
Repacked	2.50	@	2.75
Miscellaneous	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—			
No. 1	Nominal		
No. 2	1.85	@	1.90
No. 3 (bagging)	1.50	@	1.60
No. 4	1.50	@	1.60
No. 5A	1.40	@	1.50

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.50
New Mixed Cuttings	2.00	@	2.25
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxfords	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1 65
Dutch Blue Cottons	2.25	@	2 50
French Blue Linens	3.50	@	4.00
German Blue Linens	2.50	@	2.75
German Blue Cottons	2.00	@	2.25
Checks and Blues	2.00	@	2.25
Linsey Garments	2.25	@	2.35
Dark Cottons	2.15	@	2.25
Old Shopperies	1.75	@	2.00
New Shopperies	1.75	@	2.00
French Blues	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.25	@	2.35
Domestic	2.15	@	2.25
Wool Tares, light	1.75	@	1.85
Wool Tares, heavy	2.20	@	2.35
Bright Bagging	1.70	@	1.75
Manila Rope—			
Foreign	5.00	@	5.25
Domestic	5.00	@	5.25
Jute Strings	2.75	@	3.00
Sisal Strings	2.60	@	2.75
Mixed Strings	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.20	@	3.30
Ordinary Hard White No. 1	2.50	@	2.60
Hard White No. 2	2.20	@	2.30
Soft White No. 1	2.00	@	2.10
Flat Stock—			
Stitchless	1.25	@	1.30
Over issue Mag	1.25	@	1.30
Solid Flat Book	1.15	@	1.25
Crumbled No. 1	.95	@	1.05
Ledger Stock	1.30	@	1.35
New B. B. Chips	.55	@	.60
Manila—			
New Env. Cut	2.15	@	2.25
New Cuttings	1.60	@	1.70
Old Kraft Machine—			
Compressed bales	1.70	@	1.80
News—			
No. 1 White News	1.40	@	1.50
Strictly Overissue	.70	@	.85
Strictly Folded	.70	@	.80
No. 1 Mixed Paper	.65	@	.70

mineral pigments

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Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—

India	.15¼	@	.17¼
Belg. White Hemp	.16½	@	.19¼
India Compress	.15¾	@	.16¼

Fine Polished—

Fine India	.21	@	.23

Unpolished—

Box	.11¼	@	.11¾
Paper Makers	.11	@	.13
Tube Rope	.12	@	.14¼
Wall Paper	.13	@	.13¾
Wrapping	.16	@	.20
Soft Fiber Rope	.14¼	@	.14¾

(Hard Fibre)

Bond	.13½	@	.22
Anchor	.13	@	.14½
Manila	.21	@	.28

PHILADELPHIA

Paper

Rag Content Bond & Ledgers—
Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—

	Bonds		Ledgers
No. 1 Sulphite	7.75		8.75
No. 2 Sulphite	6.75		7.75
No. 3 Sulphite	6.00		7.00
No. 4 Sulphite	5.50		6.50

F.o.b. Mill

Book, M.F.	5.00	@	—
Book, S. S. & C.	5.25	@	—
Book, Coated	6.75	@	—
Coated Lithograph	6.75	@	—
No. 1 Jute Manila	10.50	@	—
Manila Sul., No. 1	6.75	@	—
Manila No. 2	4.25	@	—
No. 1 Kraft	6.00	@	—
Southern Kraft	5.00	@	—
News Print Rolls	42.50	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00

Binder Boards—

No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00

Tarred Felts—

Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.08	@	.08½
New White, No. 2.	.04½	@	.05
Light Silesias	.05½		—
Silesias, No. 1	.04½	@	.05
Black Silesias, soft.	.03½	@	.04
New Unbleached	.06	@	—
Washable, No. 1	.02	@	.02½
Blue Overall	.07	@	.07½
Cottons—According to grades—			
Washable, No. 2	.02½	@	.04½
New Blue	.02	@	.02½
Fancy	.03	@	—
New Black Soft	.04	@	.04½
New Light Seconds	.03½	@	.04
New Dark Seconds	2.00	@	2.25
Khaki Cuttings—			
No. 1 O. D.	.04	@	.04½
No. 2 Mixed	.03½	@	.04
Corduroy	.02	@	.02¼
New Canvas	.04	@	.04½
New Black Mixed.	.02	@	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	4.00	@	4.50
Miscellaneous	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.50	@	2.75
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1	2.20	@	2.25
Domestic No. 1	2.10	@	2.20
Domestic No. 2	1.90	@	2.00
Roofing bagging	1.75	@	1.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	2.00	@	—
Domestic	2.25	@	—
Manila Rope	2.75	@	—
Sisal Rope	2.25	@	2.35
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	2.25	@	2.50
No. 2	1.00	@	1.10
Wool Tares, heavy	3.25	@	3.50
Mixed Strings	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.50	@	2.75

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.40	@	2.50
No. 2 Hard White.	2.20	@	2.25
No. 1 Soft White.	2.00	@	2.10
No. 2 Soft White.	1.40	@	1.45
No. 1 Mixed	—	@	.85
Solid Ledger Stock	—	@	1.75
Ledger Stock, white.	1.60	@	1.65
Ledger Stock, colored	1.20	@	1.25
No. 1 Books, heavy	1.20	@	1.25
Manila Cuttings	1.80	@	1.90
Print Manila	.60	@	.65
Container Manila	.50	@	.55
Kraft Paper	—	@	1.40
No. 1 Mixed Paper	.50	@	.55
Straw Board Chip	.50	@	—
Binders Board Chip	.50	@	—
Corrugated Board	.65	@	.70
Overissue News	.75	@	.80
Old Newspapers	.60	@	.65

BOSTON

Paper

Rag Content Bond & Ledgers—
Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—
Delivered Zone 1

	Bonds	Ledgers
No. 1 Sulphite	7.65	8.65
No. 2 Sulphite	6.75	7.75
No. 3 Sulphite	6.25	7.25
No. 4 Sulphite	6.50	7.50

F.o.b. Mill

Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06¼
Manila, Sul. No. 2	.03¼	@	.04½
No. 1 Kraft	.05¼	@	—
No. 2 Kraft	.05	@	—

(Delivered New England points)

Southern Kraft	.05	@	—
News Print Rolls	42.00	@	—
Straw Board, rolls	.009	@	35.00
Filled News Board	47.50	@	50.00
Chip Board	45.00	@	47.50
Single Manila Lined Chip	55.00	@	60.00
Single White, Patent Coated News Board (Bender)	67.50	@	75.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	70.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.20	@	2.35
No. 1 Soft White.	1.85	@	2.15
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	1.40	@	—
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality	2.15	@	2.25
No. 1 Old Manila	.80	@	.85
White Blank News	1.25	@	1.30
No. 1 Kraft	1.90	@	2.00
Mixed Papers	.55	@	.60
Print Manila	.75	@	.85
Container Manilas	.27½	@	—
Old Newspapers	.60	@	.62½
Overissue News	.50	@	.65
Box Board Chips	.40	@	.45
Transmission Rope	2.00	@	2.25
Corrugated Boxes	.90	@	1.00
Kraft corrugated boxes	1.50	@	1.60
Screening Wrappers	.60	@	.65

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	4.50	@	4.90
Domestic	3.00	@	3.30
Jute Rope	2.50	@	2.75
Soft Jute Strings	2.50	@	2.62½
Jute Carpet Threads	1.75	@	2.00
Gunny No. 1—			
Foreign	2.35	@	2.50
Domestic	2.10	@	2.20
Bleachery Burlap	4.25	@	4.50
Scrap Burlap—			
Foreign	2.15	@	2.25
Domestic	2.10	@	2.20
Scrap Sisal	2.50	@	2.60
Scrap Sisal for Shredding	2.75	@	2.90
Wool Tares, heavy	2.25	@	2.40
New Burlap Cuttings	2.85	@	3.00
Aust. Wool Pouches	2.90	@	3.00
Heavy Baling Bagging	2.40	@	2.75
Paper Mill Bagging	1.75	@	1.80
Bagging No. 2	1.70	@	—

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.04	@	.04¼
New White No. 1.	.09	@	.09¼
New White No. 2.	.06¼	@	.07
Silesias No. 1	.07¾	@	.08
New Black Silesias	.04¼	@	.04½
Soft Unbleached	.09½	@	.09¾
Blue Cheviot	.07½	@	.07¾
Fancy	.03¾	@	.04
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls	.07½	@	.07¾
New Black, soft	.04¾	@	.04½
Khaki Cuttings	.04¾	@	.05
O. D. Khaki	.05	@	.05¼
Corduroy	.03¼	@	.03½
New Canvas	.07¾	@	.08¼
B.V.D. Cuttings	.08¾	@	.09

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.70	@	1.80
No. 2	1.60	@	1.70
No. 3	1.30	@	1.35

Foreign Rags

(F. o. b. Boston)

Dark Cottons	2.10	@	2.20
New white shirt cuttings	6.75	@	7.50
Dutch Blues	3.00	@	3.15
New Checks and Blues	2.85	@	3.00
Old Fustians	2.85	@	3.00
Old Linsey Garments	2.65	@	2.90
New Silesias	6.50	@	7.00

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.40
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.07¾
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¾	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¾
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	42.00	@	—
Sheets, open	47.00	@	—
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White.	1.40	@	1.65
No. 1 Soft White.	1.25	@	1.50
Ledger & Writings	.60	@	.70
Solid Books	.50	@	.60
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1 Folded News	.42½	@	.45
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35¼	@	—
No. 1 Tints	.36½	@	—
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	.14½	@	—
No. 4 Tints	.15½	@	—
No. 5 Bond—White	.10¾	@	—
No. 5 Bond—Tints	.11¾	@	—
No. 5 Bond—Golden Rod	.12¾	@	—
No. 5 Ledger—White	.11¾	@	—
No. 5 Ledger—Tints	.12¾	@	—
No. 6 Bond—White	.10	@	—
No. 6 Bond—Tints	.10½	@	—
No. 6 Bond—Golden Rod	.12	@	—
No. 7 Bond—White	.08¾	@	—
No. 7 Bond—Tints	.08¾	@	—
No. 7 Bond—Golden Rod	.10¾	@	—

Book—

No. 1 M. F.	6.50	@	6.75
No. 2 M. F.	6.25	@	6.50
No. 3 M. F.	5.00	@	5.35
No. 1 S. C.	7.00	@	7.50
No. 2 S. C.	6.50	@	7.00
No. 3 S. C.	5.50	@	6.00
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—

Wrapping—delivered—

Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	4.80	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 1	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	Nominal		
Sheets	Nominal		

Pulp

Ground wood	29.00	@	30.00
Unbleached Sulphite	52.00	@	—
Book (Class 1)	64.00	@	—
Writing (Class 2)	65.00	@	—
Select (Class 3)	66.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.25
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.00	@	—
Light and Crumpled Book Stock.	.90	@	—
Ledgers and Writings	1.10	@	—
Manilas—			
New Manila Cut.	1.20	@	1.40
Printed Manilas	.55	@	—
Kraft	1.00	@	1.60
News and Sorap—			
Strictly Overissue	.65	@	—
Strictly Folded	.65	@	—
No. 1 Mixed Paper	.55	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09	@	.09¼
Fancy Shirt Cuttings	.03¼	@	.04